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- (71) Applicants (for all designated States except US):

 RIBOZYME PHARMACEUTICALS, INCORPORATED [US/US]; 2950 Wilderness Place, Boulder, CO 80301 (US). CHIRON CORPORATION [US/US]; 4560 Horton Street, Emeryville, CA 94608-2916 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ESCOBEDO, Jaime [US/US]; 1470 Livorna Road, Alamo, CA 94507

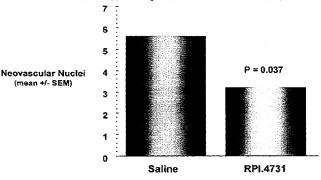
(US). MCSWIGGEN, James [US/US]; 4866 Franklin Drive, Boulder, CO 80301 (US). PAVCO, Pamela [US/US]; 705 Barberry Circle, Lafayette, CO 80026 (US). STINCHCOMB, Dan [US/US]; 8409 South Country Road 3, Ft. Collins, CO 80528 (US). SANDBERG, Jennifer [US/US]; 620 Bluegrass Drive, Longmont, CO 80503 (US). GORDON, Gilad [US/US]; 3605 Silver Plume Lane, Boulder, CO 80303 (US).

- (74) Agent: TERPSTRA, Anita, J.; McDonnell Boehnen Hulbert & Berghoff, Suite 3200, 300 South Wacker Drive, Chicago, IL 60606 (US).
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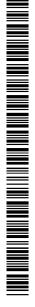
(54) Title: NUCLEIC ACID BASED MODULATION OF FEMALE REPRODUCTIVE DISEASES AND CONDITIONS

RPI.4731 Reduces Hypoxia-Induced Retinal Neovascularization in Neonatal Mice



SEQ ID NO: 5978
Results: ~40% decrease in retinal neovascularization following two intraocular injections of RPI.4731

(57) Abstract: The present invention relates to nucleic acid molecules, including dsRNA, siRNA, antisense, 2,5-A chimeras, aptamers, and enzymatic nucleic acid molecules, such as hammerhead ribozymes, DNAzymes, and allozymes, which modulate the expression of vascular endothelial growth factor receptor (VEGF) and/or vascular endothelial growth factor receptor (VEGF) genes for the treatment and/or diagnosis of diseases and conditions associated with angiogenesis, such as cancer, tumor angiogenesis, or ocular indications such as diabetic retinopathy, or age related macular degeneration, proliferative diabetic retinopathy, hypoxia-induced angiogenesis, rheumatoid arthritis, psoriasis, wound healing, and female reproductive disorders and conditions, including but not limited to endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), and menopausal dysfunction.



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NUCLEIC ACID BASED MODULATION OF FEMALE REPRODUCTIVE DISEASES AND CONDITIONS

This patent application claims priority from Sandberg et al., USSN 60/334,461, filed November 30, 2001, entitled "Method and Reagent for the Modulation of Female Reproductive Diseases and Conditions" and Pavco et al., USSN 10/138,674, filed May 3, 2002, which is a continuation in part of Pavco et al., USSN 09/870,161, which is a continuation-in-part of Pavco et al., USSN 09/708,690, filed November 7, 2000, which is a continuation-in-part of Pavco et al., USSN 09/371,722, filed August 10, 1999, which is a continuation-in-part of Pavco et al., USSN 08/584,040, filed January 11, 1996, which claims the benefit of Pavco et al., USSN 60/005,974, filed on October 26, 1995; these earlier applications are entitled "Method and Reagent for Treatment of Diseases or Conditions Related to Levels of Vascular Endothelial Growth Factor Receptor". Each of these applications is hereby incorporated by reference herein in it's entirety including the drawings and tables.

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Technical Field Of The Invention

This invention relates to methods and reagents for the treatment of diseases or conditions relating to the levels of expression of vascular endothelial growth factor (VEGF) and vascular endothelial growth factor receptor(s). Specifically, the instant invention features nucleic-acid based molecules and methods that modulate the expression of vascular endothelial growth factor and/or vascular endothelial growth factor receptors, such as VEGFR1 and/or VEGFR2, that are useful in preventing, treating, controlling and/or diagnosing disorders and conditions related to angiogenesis, including but not limited to cancer, tumor angiogenesis, or ocular indications such as diabetic retinopathy, or age related macular degeneration, proliferative diabetic retinopathy, hypoxia-induced angiogenesis, rheumatoid arthritis, psoriasis, wound healing, endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), and menopausal dysfunction.

Background Of The Invention

The following is a discussion of relevant art, none of which is admitted to be prior art to the present invention.

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VEGF, also referred to as vascular permeability factor (VPF) and vasculotropin, is a potent and highly specific mitogen of vascular endothelial cells (for a review see Ferrara, 1993 *Trends Cardiovas. Med.* 3, 244; Neufeld *et al.*, 1994, *Prog. Growth Factor Res.* 5, 89). VEGF-induced neovascularization is implicated in various pathological conditions such as tumor angiogenesis, or ocular indications such as diabetic retinopathy, or age related macular degeneration, proliferative diabetic retinopathy, hypoxia-induced angiogenesis, rheumatoid arthritis, psoriasis, wound healing and others.

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VEGF, an endothelial cell-specific mitogen, is a 34-45 kDa glycoprotein with a wide range of activities that include promotion of angiogenesis, enhancement of vascular-permeability and others. VEGF belongs to the platelet-derived growth factor (PDGF) family of growth factors with approximately 18% homology with the A and B chain of PDGF at the amino acid level. Additionally, VEGF contains the eight conserved cysteine residues common to all growth factors belonging to the PDGF family (Neufeld *et al.*, *supra*). VEGF protein is believed to exist predominantly as disulfide-linked homodimers; monomers of VEGF have been shown to be inactive (Plouet *et al.*, 1989 *EMBO J.* 8, 3801).

VEGF exerts its influence on vascular endothelial cells by binding to specific high-affinity cell surface receptors. Covalent cross-linking experiments with ¹²⁵I-labeled VEGF protein have led to the identification of three high molecular weight complexes of 225, 195 and 175 kDa presumed to be VEGF and VEGF receptor complexes (Vaisman *et al.*, 1990 *J. Biol. Chem.* 265, 19461). Based on these studies VEGF-specific receptors of 180, 150 and 130 kDa molecular mass were predicted. In endothelial cells, receptors of 150 and 130 kDa have been identified. The VEGF receptors belong to the superfamily of receptor tyrosine kinases (RTKs) characterized by a conserved cytoplasmic catalytic kinase domain and a hydrophilic kinase sequence. The extracellular domains of the VEGF receptors consist of seven immunoglobulin-like domains that are thought to be involved in VEGF binding functions.

The two most abundant and high-affinity receptors of VEGF are flt-1 (VEGFR1) (fms-like tyrosine kinase) cloned by Shibuya et al., 1990 Oncogene 5, 519 and KDR (VEGFR2) (kinase-insert-domain-containing receptor) cloned by Terman et al., 1991 Oncogene 6, 1677. The murine homolog of KDR, cloned by Mathews et al., 1991, Proc. Natl. Acad. Sci., USA, 88, 9026, shares 85% amino acid homology with KDR and is termed as flk-1 (fetal liver kinase-1). The high-affinity binding of VEGF to its receptors is modulated by cell surface-associated heparin and heparin-like molecules (Gitay-Goren et al., 1992 J. Biol. Chem. 267, 6093).

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VEGF expression has been associated with several pathological states such as tumor angiogenesis, several forms of blindness, rheumatoid arthritis, psoriasis and others. In addition, a number of studies have demonstrated that VEGF is both necessary and sufficient for neovascularization. Takashita et al., 1995 J. Clin. Invest. 93, 662, demonstrated that a single injection of VEGF augmented collateral vessel development in a rabbit model of ischemia. VEGF also can induce neovascularization when injected into the cornea. Expression of the VEGF gene in CHO cells is sufficient to confer tumorigenic potential to the cells. Kim et al., supra and Millauer et al., supra used monoclonal antibodies against VEGF or a dominant negative form of VEGFR2 receptor to inhibit tumor-induced neovascularization.

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During development, VEGF and its receptors are associated with regions of new vascular growth (Millauer et al., 1993 Cell 72, 835; Shalaby et al., 1993 J. Clin. Invest. 91, 2235). Furthermore, transgenic mice lacking either of the VEGF receptors are defective in blood vessel formation and these mice do not survive; VEGFR2 appears to be required for differentiation of endothelial cells, while VEGFR1 appears to be required at later stages of vessel formation (Shalaby et al., 1995 Nature 376, 62; Fung et al., 1995 Nature 376, 66). Thus, these receptors apparently need to be present to properly signal endothelial cells or their precursors to respond to vascularization-promoting stimuli.

Increasing evidence suggests that the VEGF family may also be involved with both the etiology and maintenance of peritoneal endometriosis. Peritoneal endometriosis is a significant debilitating gynecological problem of widespread prevalence. It is now generally accepted that the pathogenesis of peritoneal endometriosis involves the implantation of exfoliated endometrium. Maintenance of exfoliated endometrial tissue is dependent upon the generation and maintenance of an extensive blood supply both within and surrounding the ectopic tissue.

Endometriosis is a disease affecting an estimated 77 million women and teenagers worldwide. Endometriosis is a leading cause of infertility, chronic pelvic pain and hysterectomy. Endometriosis can be characterized when endometrial tissue (the tissue inside the uterus which builds up and is shed each month during menses) is found outside the uterus, in other areas of the body. The endometrial tissue can respond to hormonal commands each month and break down and bleed. However, unlike the endometrium, these tissue deposits have no way of leaving the body. The result is internal bleeding, degeneration of blood and tissue shed from the growths, inflammation of the surrounding areas, expression of irritating enzymes and formation of scar tissue. In addition, depending on the location of the growths.

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interference with the bowel, bladder, intestines and other areas of the pelvic cavity can occur. Endometrial tissue has even been found lodged in the skin and at other extrapelvic locations like the arm, leg and even brain.

Currently, the presence of Endometriosis can only be confirmed through surgery such as laparoscopy, but can be suspected based on symptoms, physical findings and diagnostic tests. Endometriosis can be treated in many different ways, both surgically and medically. Most commonly, surgery will be performed during which the disease will be excised, ablated, fulgarated, cauterized or otherwise removed, and adhesions will also be freed. Surgeries include but are not limited to laparoscopy; laparotomy; presacral and uterosacral and various levels of hysterectomies, where some or all of the reproductive organs are removed. Often, this method will only relieve the symptoms associated with growths on the reproductive organs, not the bowels or kidneys and related areas where Endometriosis can be present.

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There are several drugs used to treat Endometriosis that are utilized either alone or in combination with surgery. These include contraceptives, GnRH agonists, and/or synthetic hormones. GnRH agonists are commonly used on women in all stages of the disease and may sometimes have serious side affects. GnRH (gonadotropin releasing hormone) analogues are classified into 2 groups: agonists and antagonists. Agonists are commonly used in the treatment of Endometriosis by suppressing the manufacture of follicle stimulating hormone (FSH) and luteinizing hormone (LH), common hormones required in ovulation. When they are not secreted, the body will go into "pseudo-menopause," stalling the growth of more implants. However, these are again only stop-gap measures that can be utilized only for short term intervals. Once the body returns to it's normal state, the Endometriosis will again begin to implant itself.

Angiogenesis is likely to be involved in the pathogenesis of endometriosis. According to the transplantation theory, when the exfoliated endometrium is attached to the peritoneal layer, the establishment of a new blood supply is essential for the survival of the endometrial implant and development of endometriosis (Donnez et al., 1998, Hum. Reprod., 13, 1686-1690). Endometrial growth and repair after menstruation are associated with profound angiogenesis. Abnormalities in these processes result in excessive or unpredictable bleeding patterns and are common in many women. It is therefore important to understand which factors regulate normal endometrial angiogenesis. Vascular endothelial growth factor (VEGF) is an endothelial cell-specific mitogen that plays an important role in normal and pathological angiogenesis (Fasciani et al., 2000, Mol. Hum. Reprod., 6, 50-54; Sharkey et al., 2000, J. Clin. Endocrinol. Metab., 85, 402-409). Sources of this factor include the eutopic

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endometrium, ectopic endometriotic tissue and peritoneal fluid macrophages. Important to its etiology is the correct peritoneal environment in which the exfoliated endometrium is seeded and implants. Established ectopic tissue is then dependent on the peritoneal environment for its survival, an environment that supports angiogenesis. The increasing knowledge of the involvement of the VEGF family in endometriotic angiogenesis raises the possibility of novel approaches to its medical management, with particular focus on the anti-angiogenic control of the action of VEGF (McLaren, 2001, *Hum. Reprod. Update*, 6, 45-55).

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Pavco et al., International PCT Publication No. WO 97/15662, describes methods and reagents for treating diseases or conditions related to levels of vascular endothelial growth factor receptor.

Robinson, International PCT Publication No. WO 95/04142, describes the use of certain antisense oligonucleotides targeted against VEGF RNA to inhibit VEGF expression.

Jellinek et al., 1994 Biochemistry 33, 10450 describe the use of specific VEGF-specific high-affinity RNA aptamers to inhibit the binding of VEGF to its receptors.

Rockwell and Goldstein, International PCT Publication No. WO 95/21868, describe the use of certain anti-VEGF receptor monoclonal antibodies to neutralize the effect of VEGF on endothelial cells.

Pappa, International PCT Publication No. WO 01/32920, describes inhibitors, including certain ribozyme and antisense nucleic acid molecules, of specific genes, including cathepsin D, AEBP-1, stromelysin-3, cystatin B, protease inhibitor 1, sFRP4, gelsolin, IGFBP-3, dual specificity phosphatase 1, PAEP, Ig gamma chain, ferritin, complement component 3, proalpha-1 type III collagen, proline 4-hydroxylase, alpha-2 type I collagen, claudin-4, melanoma adhesion protein, procollagen C-endopeptidase enhancer, nascent-polypeptide-associated complex alpha polypeptide, elongation factor 1 alpha (EF-1-alpha), vitamin D3 25 hydroxylase, CSRP-1, steroidogenic acute regulatory protein, apolipoprotein E, transcobalamin II, prosaposin, early growth response 1 (EGR1), ribosomal protein S6, adenosine deaminase RNA-specific protein, RAD21, guanine nucleotide binding protein beta polypeptide 2-like 1 (RACK1) and podocalyxin genes which are all differentially expressed in tissues within individual patients with endometriosis.

Labarbera et al., International PCT Publication No. WO 00/73416, describes specific antisense nucleic acid molecules targeting follicle-stimulating hormone receptor.

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Storella *et al.*, International PCT Publication No. WO 99/63116, describes modulators of Prothymosin gene products for treating endometriosis, including certain ribozymes and antisense nucleic acid molecules.

Summary Of The Invention

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This invention features nucleic acid-based molecules, for example, enzymatic nucleic acid molecules, allozymes, antisense nucleic acids, 2-5A antisense chimeras, triplex forming oligonucleotides, decoy RNA, dsRNA, siRNA, aptamers, and antisense nucleic acids containing nucleic acid cleaving chemical groups, and methods to modulate vascular endothelial growth factor (VEGF) and/or vascular endothelial growth factor receptor (VEGFr) gene expression. Non-limiting examples of genes that encode vascular endothelial growth factor receptors of the invention include VEGFR1, VEGFR2 or combinations thereof. In particular, the instant invention features nucleic acid-based molecules and methods that modulate the expression of vascular endothelial growth factor and/or vascular endothelial growth factor receptors, such as VEGFR1 and/or VEGFR2, that are useful in preventing, treating, controlling, and/or diagnosing angiogenesis related diseases and conditions, including but not limited to tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and female reproductive disorders and conditions, including but not limited to endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), and menopausal dysfunction.

In one embodiment, the invention features one or more nucleic acid-based molecules and methods that independently or in combination modulate the expression of gene(s) encoding vascular endothelial growth factor receptors. Specifically, the present invention features nucleic acid molecules that modulate the expression of VEGF (for example Genbank Accession No. NM_003376), VEGFR1 receptor (for example Genbank Accession No. NM_002019), and VEGFR2 receptor (for example Genbank Accession No. NM_002253) that are useful in preventing, treating, controlling, and/or diagnosing tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and female reproductive disorders and conditions, including but not limited to

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endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), and menopausal dysfunction.

In one embodiment, the present invention features a compound having Formula I: (SEQ ID NO: 5977)

5' g_Sa_Sg_Su_Sugc<u>U</u>GAuGagg ccgaaa ggccGaaAgucugB 3'

wherein each a is 2'-O-methyl adenosine nucleotide, each g is a 2'-O-methyl guanosine nucleotide, each c is a 2'-O-methyl cytidine nucleotide, each u is a 2'-O-methyl uridine nucleotide, each A is adenosine, each G is guanosine, each s individually represents a phosphorothioate internucleotide linkage, U is 2'-deoxy-2'-C-allyl uridine, and B is an inverted deoxyabasic moiety. This compound is also referred to as ANGIOZYMETM ribozyme.

In another embodiment, the present invention features a compound having Formula II: (SEQ ID NO: 5978).

5'-usascs asau ucU GAu Gag gcg aaa gcc Gaa Aag aca aB-3'

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wherein each $\bf a$ is 2'-O-methyl adenosine nucleotide, each $\bf g$ is a 2'-O-methyl guanosine nucleotide, each $\bf c$ is a 2'-O-methyl cytidine nucleotide, each $\bf u$ is a 2'-O-methyl uridine nucleotide, each $\bf A$ is adenosine, each $\bf G$ is guanosine, each $\bf s$ individually represents a phosphorothioate internucleotide linkage, $\underline{\bf U}$ is 2'-deoxy-2'-C-allyl uridine, and $\bf B$ is an inverted deoxyabasic moiety.

In one embodiment, the invention features a composition comprising a nucleic acid molecule of the invention in a pharmaceutically acceptable carrier. In another embodiment, the invention features a composition comprising a compound of Formula I and/or Formula II in a pharmaceutically acceptable carrier or diluent.

In one embodiment, the invention features a method of administering to a cell, for example a mammalian cell, including a human cell, a nucleic acid molecule of the invention comprising contacting the cell with the nucleic acid molecule under conditions suitable for administration, for example in the presence of a delivery reagent such as a lipid, cationic lipid, phospholipid, or liposome. In another embodiment, the invention features a method of administering to a cell, for example a mammalian cell, including a human cell, a compound of Formula I and/or Formula IIcomprising contacting the cell with the compound under

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conditions suitable for administration, for example in the presence of a delivery reagent such as a lipid, cationic lipid, phospholipid, or liposome.

In one embodiment, the present invention features a mammalian cell comprising a nucleic acid molecule of the invention, wherein the mammalian cell is, for example, a human cell. In another embodiment, the present invention also features a mammalian cell comprising the compound of Formula I and/or Formula II, wherein the mammalian cell is, for example, a human cell.

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In one embodiment, the invention features a method of inhibiting angiogenesis, for example tumor angiogenesis, or ocular indications such as diabetic retinopathy, or age related macular degeneration, or endometrial neovascularization, in a subject comprising contacting the subject with a nucleic acid molecule of the invention, under conditions suitable for the inhibition. In another embodiment, the invention features a method of inhibiting angiogenesis, for example tumor angiogenesis, or ocular indications such as diabetic retinopathy, or age related macular degeneration, or endometrial neovascularization, in a subject, comprising contacting the subject with a compound of Formula I and/or Formula II, under conditions suitable for the inhibition.

In another embodiment, the invention features a method of treatment of a subjecthaving an ocular condition associated with the increased level of a VEGF receptor, for example diabetic retinopathy, or age related macular degeneration, comprising contacting cells of the subjectwith a nucleic acid molecule, such as an enzymatic nucleic acid molecule targeted against a VEGF receptor RNA, e.g., molecule according to Formula I and/or II, under conditions suitable for the treatment.

In another embodiment, the invention features a method of treatment of a subjecthaving a condition associated with an increased level of VEGR and/or a VEGF receptor, for example tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, ocular diseases or ocular indications such as diabetic retinopathy, or age related macular degeneration, rhuematoid arthritis, psoriasis endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), or menopausal dysfunction, comprising contacting cells of the subject with a nucleic acid molecule of the invention, such as a compound of Formula I and/or Formula II, under conditions suitable for the treatment.

In yet another embodiment, the inventive method of treatment further comprises the use of one or more drug therapies under conditions suitable for the treatment. Non-limiting

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examples of other drug therapies that can be used in combination with nucleic acid molecules of the invention include to 5-fluoro uridine, Leucovorin, Irinotecan (CAMPTOSAR® or CPT-11 or Camptothecin-11 or Campto), Paclitaxel, or Carboplatin, GnRH (gonadotropin releasing hormone) agonists, Lupron Depot (Leuprolide Acetate), Synarel (naferalin acetate), Zolodex (goserelin acetate), Suprefact (buserelin acetate), Danazol, or oral contraceptives including but not limited to Depo-Provera or Provera (medroxyprogesterone acetate), or any other estrogen/progesterone contraceptive.

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In one embodiment, the invention features a method of administering to a mammal, for example a human, a nucleic acid molecule of the invention comprising contacting the mammal with the nucleic acid molecule under conditions suitable for the administration, for example, in the presence of a delivery reagent such as a lipid, cationic lipid, phospholipid, or liposome. In another embodiment, the invention features a method of administering to a mammal, for example a human, a compound of Formula I and/or Formula II comprising contacting the mammal with the compound under conditions suitable for the administration, for example, in the presence of a delivery reagent such as a lipid, cationic lipid, phospholipid, or liposome.

In one embodiment, the invention features a nucleic acid molecule which down regulates expression of a vascular endothelial growth factor (VEGF) and/or vascular endothelial growth factor receptor (VEGFr) gene, for example, wherein the VEGFr gene comprises VEGFR1 or VEGFR2 and any combination thereof.

In one embodiment, a nucleic acid molecule of the invention, such as an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups, is adapted to treat, control and/or diagnose tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, ocular diseases or ocular indications, such as diabetic retinopathy, or age related macular degeneration, rhuematoid arthritis, psoriasis endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), or menopausal dysfunction.

Such nucleic acid molecules are also useful for the prevention of the diseases and conditions including diabetic retinopathy, macular degeneration, neovascular glaucoma, myopic degeneration, verruca vulgaris, angiofibroma of tuberous sclerosis, port-wine stains, Sturge Weber syndrome, Kippel-Trenaunay-Weber syndrome, Osler-Weber-Rendu syndrome

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and other diseases or conditions that are related to the levels of VEGFR1 or VEGFR2 in a cell or tissue.

In another embodiment, the invention features a composition in a pharmaceutically acceptable carrier or diluent, comprising the nucleic acid molecule of the instant invention.

In another embodiment, an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention is adapted for birth control.

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In one embodiment, an enzymatic nucleic acid molecule of the invention is in a hammerhead, Inozyme, Zinzyme, DNAzyme, Amberzyme, or G-cleaver configuration.

In one embodiment, an enzymatic nucleic acid molecule of the invention comprises between 8 and 100 bases complementary to RNA of VEGFR1 and/or VEGFR2 gene. In another embodiment, an enzymatic nucleic acid molecule of the invention comprises between 14 and 24 bases complementary to RNA of VEGFR1 and/or VEGFR2 gene.

In one embodiment, a siRNA molecule of the invention comprises a double stranded RNA wherein one strand of the RNA is complementary to RNA of a VEGFR1 and/or VEGFR2 gene. In another embodiment, a siRNA molecule of the invention comprises a double stranded RNA wherein one strand of the RNA comprises a portion of a sequence of RNA having a VEGFR1 and/or VEGFR2 sequence. In yet another embodiment, a siRNA molecule of the invention comprises a double stranded RNA wherein both strands of RNA are connected by a non-nucleotide linker. Alternately, a siRNA molecule of the invention comprises a double stranded RNA wherein both strands of RNA are connected by a nucleotide linker, such as a loop or stem loop structure.

In one embodiment, a single strand component of a siRNA molecule of the invention is from about 14 to about 50 nucleotides in length. In another embodiment, a single strand component of a siRNA molecule of the invention is about 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, or 28 nucleotides in length. In yet another embodiment, a single strand component of a siRNA molecule of the invention is about 23 nucleotides in length. In one embodiment, a siRNA molecule of the invention is from about 28 to about 56 nucleotides in length. In another embodiment, a siRNA molecule of the invention is about 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, or 52 nucleotides in length. In yet another embodiment, a siRNA molecule of the invention is about 46 nucleotides in length.

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In one embodiment, an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention is chemically synthesized.

In another embodiment, an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention comprises at least one 2'-sugar modification.

In another embodiment, an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acids containing nucleic acid cleaving chemical groups of the invention comprises at least one nucleic acid base modification.

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In another embodiment, an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention comprises at least one phosphate backbone modification.

In one embodiment, the invention features a mammalian cell, for example a human cell, comprising a nucleic acid molecule of the invention.

In another embodiment, the invention features a method of reducing VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 expression or activity in a cell comprising contacting the cell with a nucleic acid molecule of the invention that modulates the expression and/or activity of VEGF and/or VEGFr, under conditions suitable for the reduction.

In another embodiment, a method of treatment of a subject having a condition associated with the level of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 is featured, wherein the method further comprises the use of one or more drug therapies under conditions suitable for the treatment.

In one embodiment, the invention features a method for treatment of a subject having tumor angiogenesis, tumor angiogenesis, cancers including but not limited to tumor and cancer types shown under Diagnosis in **Table III**, ocular diseases or ocular indications such as diabetic retinopathy, or age related macular degeneration, rhuematoid arthritis, psoriasis and/or endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular

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menstrual cycles, ovulation, premenstrual syndrome (PMS), or menopausal dysfunction, comprising administering to the subject a nucleic acid molecule of the invention that modulates the expression and/or activity of VEGF and/or VEGFr under conditions suitable for the treatment.

In another embodiment, the invention features a method for birth control in a subject comprising administering to the subject a nucleic acid molecule of the invention that modulates the expression and/or activity of VEGF and/or VEGFr under conditions suitable for the treatment.

In another embodiment, the invention features a method of cleaving RNA encoded by a VEGF, VEGFR1 and/or VEGFR2 gene comprising contacting an enzymatic nucleic acid molecule of the invention having endonuclease activity with RNA encoded by a VEGFR1 and/or VEGFR2 gene under conditions suitable for the cleavage, for example, wherein the cleavage is carried out in the presence of a divalent cation, such as Mg²⁺.

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In one embodiment, a nucleic acid molecule of the invention comprises a cap structure, for example a 3',3'-linked or 5',5'-linked deoxyabasic ribose derivative, wherein the cap structure is at the 5'-end, or 3'-end, or both the 5'-end and the 3'-end of the enzymatic nucleic acid molecule.

In another embodiment, a nucleic acid molecule of the invention comprises a cap structure, for example a 3',3'-linked or 5',5'-linked deoxyabasic ribose derivative, wherein the cap structure is at the 5'-end, or 3'-end, or both the 5'-end and the 3'-end of the antisense nucleic acid molecule.

In one embodiment, the invention features an expression vector comprising a nucleic acid sequence encoding at least one nucleic acid molecule of the invention such that the vector allows expression of the nucleic acid molecule.

In another embodiment, the invention features a mammalian cell, for example, a human cellcomprising an expression vector of the invention.

In yet another embodiment, an expression vector of the invention further comprises a sequence for a nucleic acid molecule complementary to RNA encoded by a VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 gene.

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In one embodiment, an expression vector of the invention comprises a nucleic acid sequence encoding two or more nucleic acid molecules of the invention, which can be the same or different.

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In another embodiment, the invention features a method for treatment or control of tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and/or endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), or menopausal dysfunction, comprising administering to a subject a nucleic acid molecule of the invention that modulates the expression and/or activity of VEGF and/or VEGFr, such as an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention, under conditions suitable for the treatment, including administering to the subject one or more other therapies, for example, 5-fluoro uridine, Leucovorin, Irinotecan (CAMPTOSAR® or CPT-11 or Camptothecin-11 or Campto), Paclitaxel, or Carboplatin.GnRH (gonadotropin releasing hormone) agonists, Lupron Depot (Leuprolide Acetate), Synarel (naferalin acetate), Zolodex (goserelin acetate), Suprefact (buserelin acetate), Danazol, or oral contraceptives including but not limited to Depo-Provera or Provera (medroxyprogesterone acetate), or any other estrogen/progesterone contraceptive.

In one embodiment, the method of treatment features a nucleic acid molecule of the invention, such as an enzymatic nucleic acid or antisense nucleic acid molecule, that comprises at least five ribose residues, at least ten 2'-O-methyl modifications, and a 3'- end modification, such as a 3'-3' inverted abasic moiety. In another embodiment, a nucleic acid molecule of the invention further comprises phosphorothioate linkages on at least three of the 5' terminal nucleotides.

In another embodiment, the invention features a method of administering to a mammal, for example a human, an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention, comprising contacting the mammal with the nucleic acid molecule under conditions suitable for the administration, for example, in the presence of a delivery reagent such as a lipid, cationic lipid, phospholipid, or liposome.

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In yet another embodiment, the invention features a method of administering to a mammal an enzymatic nucleic acid molecule, antisense nucleic acid molecule, 2-5A antisense chimera, triplex forming oligonucleotide, decoy RNA, dsRNA, siRNA, aptamer, or antisense nucleic acid containing nucleic acid cleaving chemical groups of the invention in conjunction with other therapies, comprising contacting the mammal, for example a human, with the nucleic acid molecule and the other therapy under conditions suitable for the administration.

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In another embodiment, other therapies contemplated by the instant invention that can be used in conjunction with the nucleic acid molecules of the instant invention include, but are not limited to, 5-fluoro uridine, Leucovorin, Irinotecan (CAMPTOSAR® or CPT-11 or Camptothecin-11 or Campto), Paclitaxel, or Carboplatin, GnRH (gonadotropin releasing hormone) agonists, Lupron Depot (Leuprolide Acetate), Synarel (naferalin acetate), Zolodex (goserelin acetate), Suprefact (buserelin acetate), Danazol, or oral contraceptives including but not limited to Depo-Provera or Provera (medroxyprogesterone acetate), or other estrogen/progesterone contraceptive.

In one embodiment, the invention features the use of an enzymatic nucleic acid molecule, to down-regulate the expression of VEGFR1 and/or VEGFR2 genes in the treatment or control of tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and/or endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), or menopausal dysfunction. Such enzymatic nucleic acid molecule can be in the hammerhead, NCH, G-cleaver, Amberzyme, Zinzyme, and/or DNAzyme motif.

In another embodiment, the invention features the use of an enzymatic nucleic acid moleculeto down-regulate the expression of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 genes, as a method of birth control. Such enzymatic nucleic acid molecule can be in the hammerhead, NCH, G-cleaver, Amberzyme, Zinzyme, and/or DNAzyme motif. In one embodiment, the nucleic acid molecules of the invention have complementarity to the substrate sequences in **Tables V and VI**. Examples of enzymatic nucleic acid molecules of the invention are shown in **Tables V and VI**. Examples of such enzymatic nucleic acid molecules consist essentially of sequences defined in these Tables.

By "inhibit", "down-regulate", or "reduce", it is meant that the expression of the gene, or level of nucleic acids or equivalent nucleic acids encoding one or more proteins or protein subunits, or activity of one or more proteins or protein subunits, such as VEGFR1, VEGFR2

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and/or flk-1, is reduced below that observed in the absence of the nucleic acid molecules of the invention. In one embodiment, inhibition, down-regulation or reduction with enzymatic nucleic acid molecule preferably is below that level observed in the presence of an enzymatically inactive or attenuated molecule that is able to bind to the same site on the target nucleic acid, but is unable to cleave that nucleic acid. In another embodiment, inhibition, down-regulation, or reduction with antisense oligonucleotides is preferably below that level observed in the presence of, for example, an oligonucleotide with scrambled sequence or with mismatches. In another embodiment, inhibition, down-regulation, or reduction of VEGF and/or VEGFR, such as VEGFR1 and/or VEGFR2 with the nucleic acid molecule of the instant invention is greater in the presence of the nucleic acid molecule than in its absence.

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By "up-regulate" is meant that the expression of a gene, or level of nucleic acids or equivalent nucleic acids encoding one or more proteins or protein subunits, or activity of one or more proteins or protein subunits, such as VEGFR1 and/or VEGFR2, is greater than that observed in the absence of the nucleic acid molecules of the invention. For example, the expression of a gene, such as VEGF and/or VEGFR, such as VEGFR1 and/or VEGFR2 gene, can be increased in order to treat, prevent, ameliorate, or modulate a pathological condition caused or exacerbated by an absence or low level of gene expression.

By "modulate" is meant that the expression of a gene, or level of nucleic acids or equivalent nucleic acids encoding one or more proteins or protein subunits, or activity of one or more proteins protein subunit(s) is up-regulated or down-regulated, such that the expression, level, or activity is greater than or less than that observed in the absence of the nucleic acid molecules of the invention.

By "enzymatic nucleic acid molecule" it is meant a nucleic acid molecule which has complementarity in a substrate binding region to a specified gene target, and also has an enzymatic activity which is active to specifically cleave a target nucleic acid. That is, the enzymatic nucleic acid molecule is able to intermolecularly cleave a nucleic acid and thereby inactivate a target nucleic acid molecule. These complementary regions allow sufficient hybridization of the enzymatic nucleic acid molecule to the target nucleic acid and thus permit cleavage. One hundred percent complementarity is preferred, but complementarity as low as 50-75% can also be useful in this invention (see for example Werner and Uhlenbeck, 1995, *Nucleic Acids Research*, 23, 2092-2096; Hammann *et al.*, 1999, *Antisense and Nucleic Acid Drug Dev.*, 9, 25-31). The nucleic acids can be modified at the base, sugar, and/or phosphate groups. The term enzymatic nucleic acid is used interchangeably with phrases such

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as ribozymes, catalytic RNA, enzymatic RNA, catalytic DNA, aptazyme or aptamer-binding ribozyme, regulatable ribozyme, catalytic oligonucleotides, nucleozyme, DNAzyme, RNA enzyme, endoribonuclease, endonuclease, minizyme, leadzyme, oligozyme or DNA enzyme. All of these terminologies describe nucleic acid molecules with enzymatic activity. The specific enzymatic nucleic acid molecules described in the instant application are not limiting in the invention and those skilled in the art will recognize that all that is important in an enzymatic nucleic acid molecule of this invention is that it has a specific substrate binding site which is complementary to one or more of the target nucleic acid regions, and that it have nucleotide sequences within or surrounding that substrate binding site which impart a nucleic acid cleaving and/or ligation activity to the molecule (Cech et al., U.S. Patent No. 4,987,071; Cech et al., 1988, 260 JAMA 3030).

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Several varieties of naturally-occurring enzymatic nucleic acids are known presently. Each can catalyze the hydrolysis of nucleic acid phosphodiester bonds in trans (and thus can cleave other nucleic acid molecules) under physiological conditions. Table I summarizes some of the characteristics of these ribozymes. In general, enzymatic nucleic acids act by first binding to a target nucleic acid. Such binding occurs through the target binding portion of a enzymatic nucleic acid which is held in close proximity to an enzymatic portion of the molecule that acts to cleave the target nucleic acid. Thus, the enzymatic nucleic acid first recognizes and then binds a target nucleic acid through complementary base-pairing, and once bound to the correct site, acts enzymatically to cut the target nucleic acid. Strategic cleavage of such a target nucleic acid will destroy its ability to direct synthesis of an encoded protein. After an enzymatic nucleic acid has bound and cleaved its nucleic acid target, it is released from that nucleic acid to search for another target and can repeatedly bind and cleave new targets. Thus, a single ribozyme molecule is able to cleave many molecules of target nucleic acid. In addition, the ribozyme is a highly specific inhibitor of gene expression, with the specificity of inhibition depending not only on the base-pairing mechanism of binding to the target nucleic acid, but also on the mechanism of target nucleic acid cleavage. Single mismatches, or base-substitutions, near the site of cleavage can completely eliminate catalytic activity of a ribozyme.

In one embodiment of the inventions described herein, an enzymatic nucleic acid molecule of the invention is formed in a hammerhead or hairpin motif, but can also be formed in the motif of a hepatitis delta virus, group I intron, group II intron or RNase P RNA (in association with an RNA guide sequence), *Neurospora* VS RNA, DNAzymes, NCH cleaving motifs, or G-cleavers. Examples of such hammerhead motifs are described by Dreyfus, *supra*, Rossi *et al.*, 1992, *AIDS Research and Human Retroviruses* 8, 183; of hairpin motifs

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by Hampel et al., EP0360257, Hampel and Tritz, 1989 Biochemistry 28, 4929, Feldstein et al., 1989, Gene 82, 53, Haseloff and Gerlach, 1989, Gene, 82, 43, and Hampel et al., 1990 Nucleic Acids Res. 18, 299; Chowrira & McSwiggen, US. Patent No. 5,631,359; an examples of a hepatitis delta virus motif is described by Perrotta and Been, 1992 Biochemistry 31, 16; examples of RNase P motifs are described by Guerrier-Takada et al., 1983 Cell 35, 849; 5 Forster and Altman, 1990, Science 249, 783; Li and Altman, 1996, Nucleic Acids Res. 24, 835; examples of Neurospora VS RNA ribozyme motifs are described by Collins (Saville and Collins, 1990 Cell 61, 685-696; Saville and Collins, 1991 Proc. Natl. Acad. Sci. USA 88, 8826-8830; Collins and Olive, 1993 Biochemistry 32, 2795-2799; Guo and Collins, 1995, 10 EMBO. J. 14, 363); examples of Group II introns are described by Griffin et al., 1995, Chem. Biol. 2, 761; Michels and Pyle, 1995, Biochemistry 34, 2965; Pyle et al., International PCT Publication No. WO 96/22689; an example of a Group I intron is described by Cech et al., U.S. Patent 4,987,071; and examples of DNAzymes are described by Usman et al., International PCT Publication No. WO 95/11304; Chartrand et al., 1995, NAR 23, 4092; 15 Breaker et al., 1995, Chem. Bio. 2, 655; Santoro et al., 1997, PNAS 94, 4262, and Beigelman et al., International PCT publication No. WO 99/55857. NCH cleaving motifs are described in Ludwig & Sproat, International PCT Publication No. WO 98/58058; and G-cleavers are described in Kore et al., 1998, Nucleic Acids Research 26, 4116-4120 and Eckstein et al., International PCT Publication No. WO 99/16871. Additional motifs such as the Aptazyme 20 (Breaker et al., WO 98/43993), Amberzyme (Beigelman et al., U.S. Serial No. 09/301,511) and Zinzyme (Figure 7) (Beigelman et al., U.S. Serial No. 09/918,728), all included by reference herein including drawings, can also be used in the present invention. These specific motifs or configurations are not limiting in the invention and those skilled in the art will recognize that all that is important in an enzymatic nucleic acid molecule of this invention is 25 that it have a specific substrate binding site which is complementary to one or more of the target gene RNA regions, and that it have nucleotide sequences within or surrounding that substrate binding site which impart a RNA cleaving activity to the molecule (Cech et al., U.S. Patent No. 4,987,071).

By "nucleic acid molecule" as used herein is meant a molecule having nucleotides. The nucleic acid can be single, double, or multiple stranded and can comprise modified or unmodified nucleotides or non-nucleotides or various mixtures and combinations thereof.

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By "enzymatic portion" or "catalytic domain" is meant that portion/region of a enzymatic nucleic acid molecule essential for cleavage of a nucleic acid substrate (for example see Figure 6).

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By "substrate binding arm" or "substrate binding domain" is meant that portion/region of a enzymatic nucleic acid which is able to interact, for example via complementarity (i.e., able to base-pair with), with a portion of its substrate. Preferably, such complementarity is 100%, but can be less if desired. For example, as few as 10 bases out of 14 can be base-paired (see for example Werner and Uhlenbeck, 1995, Nucleic Acids Research, 23, 2092-2096; Hammann et al., 1999, Antisense and Nucleic Acid Drug Dev., 9, 25-31). Examples of such arms are shown generally in Figures 6-8. That is, these arms contain sequences within a enzymatic nucleic acid which are intended to bring enzymatic nucleic acid and target nucleic acid together through complementary base-pairing interactions. An enzymatic nucleic acid of the invention can have binding arms that are contiguous or non-contiguous and can be of varying lengths. The length of the binding arm(s) are preferably greater than or equal to four nucleotides and of sufficient length to stably interact with the target nucleic acid; preferably 12-100 nucleotides; more preferably 14-24 nucleotides long (see for example Werner and Uhlenbeck, supra; Hamman et al., supra; Hampel et al., EP0360257; Berzal-Herranz et al., 1993, EMBO J., 12, 2567-73) or between 8 and 14 nucleotides long. If two binding arms are chosen, the design is such that the length of the binding arms are symmetrical (i.e., each of the binding arms is of the same length; e.g., four and four, five and five nucleotides, or six and six nucleotides, or seven and seven nucleotides long) or asymmetrical (i.e., the binding arms are of different length; e.g., three and five, six and three nucleotides; three and six nucleotides long; four and five nucleotides long; four and six nucleotides long; four and seven nucleotides long; and the like).

By "Inozyme" or "NCH" motif or configuration is meant, an enzymatic nucleic acid molecule comprising a motif as is generally described as NCH Rz in Figure 6 and in Ludwig et al., International PCT Publication No. WO 98/58058 and US Patent Application Serial No. 08/878,640. Inozymes possess endonuclease activity to cleave nucleic acid substrates having a cleavage triplet NCH/, where N is a nucleotide, C is cytidine and H is adenosine, uridine or cytidine, and "/" represents the cleavage site. H is used interchangeably with X. Inozymes can also possess endonuclease activity to cleave nucleic acid substrates having a cleavage triplet NCN/, where N is a nucleotide, C is cytidine, and "/" represents the cleavage site. "T" in Figure 6 represents an Inosine nucleotide, preferably a ribo-Inosine or xylo-Inosine nucleoside.

By "G-cleaver" motif or configuration is meant, an enzymatic nucleic acid molecule comprising a motif as is generally described as G-cleaver Rz in Figure 6 and in Eckstein *et al.*, US 6,127,173. G-cleavers possess endonuclease activity to cleave nucleic acid substrates having a cleavage triplet NYN/, where N is a nucleotide, Y is uridine or cytidine and "/"

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represents the cleavage site. G-cleavers can be chemically modified as is generally shown in Figure 6.

By "amberzyme" motif or configuration is meant, an enzymatic nucleic acid molecule comprising a motif as is generally described in Beigelman *et al.*, International PCT publication No. WO 99/55857 and US Patent Application Serial No. 09/476,387. Amberzymes possess endonuclease activity to cleave nucleic acid substrates having a cleavage triplet NG/N, where N is a nucleotide, G is guanosine, and "/" represents the cleavage site. Amberzymes can be chemically modified to increase nuclease stability through substitutions using modified nucleotides. In addition, differing nucleoside and/or non-nucleoside linkers can be used to substitute the 5'-gaaa-3' loops shown in the figure. Amberzymes represent a non-limiting example of an enzymatic nucleic acid molecule that does not require a ribonucleotide (2'-OH) group within its own nucleic acid sequence for activity.

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By "zinzyme" motif or configuration is meant, an enzymatic nucleic acid molecule comprising a motif as is generally described in Figure 7 and in Beigelman *et al.*, International PCT publication No. WO 99/55857 and US Patent Application Serial No. 09/918,728. Zinzymes possess endonuclease activity to cleave nucleic acid substrates having a cleavage triplet including but not limited to YG/Y, where Y is uridine or cytidine, and G is guanosine and "/" represents the cleavage site. Zinzymes can be chemically modified to increase nuclease stability through substitutions as are generally shown in Figure 7, including substituting 2'-O-methyl guanosine nucleotides for guanosine nucleotides. In addition, differing nucleotide and/or non-nucleotide linkers can be used to substitute the 5'-gaaa-2' loop shown in the figure. Zinzymes represent a non-limiting example of an enzymatic nucleic acid molecule that does not require a ribonucleotide (2'-OH) group within its own nucleic acid sequence for activity.

By 'DNAzyme' is meant, an enzymatic nucleic acid molecule that does not require the presence of a 2'-OH group within its own nucleic acid sequence for activity. In particular embodiments the enzymatic nucleic acid molecule can have an attached linker or linkers or other attached or associated groups, moieties, or chains containing one or more nucleotides with 2'-OH groups. DNAzymes can be synthesized chemically or expressed endogenously in vivo, by means of a single stranded DNA vector or equivalent thereof. An example of a DNAzyme is shown in **Figure 8** and is generally reviewed in Usman et al., US patent No., 6,159,714; Chartrand et al., 1995, NAR 23, 4092; Breaker et al., 1995, Chem. Bio. 2, 655; Santoro et al., 1997, PNAS 94, 4262; Breaker, 1999, Nature Biotechnology, 17, 422-423; and

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Santoro et. al., 2000, J. Am. Chem. Soc., 122, 2433-39. The "10-23" DNAzyme motif is one particular type of DNAzyme that was evolved using in vitro selection, see Santoro et al., supra and as generally described in Joyce et al., US 5,807,718. Additional DNAzyme motifs can be selected for using techniques similar to those described in these references, and hence, are within the scope of the present invention.

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By "sufficient length" is meant a nucleic acid molecule of the invention is long enough to provide the intended function under the expected condition. For example, a nucleic acid molecule of the invention needs to be of "sufficient length" to provide stable interaction with a target nucleic acid molecule under the expected binding conditions and environment. In another non-limiting example, for the binding arms of an enzymatic nucleic acid, "sufficient length" means that the binding arm sequence is long enough to provide stable binding to a target site under the expected reaction conditions and environment. The binding arms are not so long as to prevent useful turnover of the nucleic acid molecule.

By "stably interact" is meant interaction of an oligonucleotides with target nucleic acid (e.g., by forming hydrogen bonds with complementary nucleotides in the target under physiological conditions) that is sufficient to the intended purpose (e.g., cleavage of target nucleic acid by an enzyme).

By "equivalent" RNA to VEGF, VEGFR1 and/or VEGFR2 is meant to include nucleic acid molecules having homology (partial or complete) to a nucleic acid encoding VEGF, VEGFR1 and/or VEGFR2 proteins or encoding proteins with similar function as VEGF, VEGFR1 and/or VEGFR2 proteins in various organisms, including human, rodent, primate, rabbit, pig, protozoans, fungi, plants, and other microorganisms and parasites. The equivalent nucleic acid sequence also includes, in addition to the coding region, regions such as 5'-untranslated region, 3'-untranslated region, introns, intron-exon junction and the like.

By "homology" is meant the nucleotide sequence of two or more nucleic acid molecules is partially or completely identical.

By "antisense nucleic acid", it is meant a non-enzymatic nucleic acid molecule that binds to target nucleic acid by means of RNA-RNA or RNA-DNA or RNA-PNA (protein nucleic acid; Egholm *et al.*, 1993 *Nature* 365, 566) interactions and alters the activity of the target nucleic acid (for a review, see Stein and Cheng, 1993 *Science* 261, 1004 and Woolf *et al.*, US patent No. 5,849,902). Typically, antisense molecules are complementary to a target sequence along a single contiguous sequence of the antisense molecule. However, in certain embodiments, an antisense molecule can bind to substrate such that the substrate molecule

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forms a loop, and/or an antisense molecule can bind such that the antisense molecule forms a loop. Thus, an antisense molecule can be complementary to two (or even more) non-contiguous substrate sequences or two (or even more) non-contiguous sequence portions of an antisense molecule can be complementary to a target sequence or both. For a review of current antisense strategies, see Schmajuk et al., 1999, J. Biol. Chem., 274, 21783-21789, Delihas et al., 1997, Nature, 15, 751-753, Stein et al., 1997, Antisense N. A. Drug Dev., 7, 151, Crooke, 2000, Methods Enzymol., 313, 3-45; Crooke, 1998, Biotech. Genet. Eng. Rev., 15, 121-157, Crooke, 1997, Ad. Pharmacol., 40, 1-49. In addition, antisense DNA can be used to target nucleic acid by means of DNA-RNA interactions, thereby activating RNase H, which digests the target nucleic acid in the duplex. The antisense oligonucleotides can comprise one or more RNAse H activating region, which is capable of activating RNAse H cleavage of a target nucleic acid. Antisense DNA can be synthesized chemically or expressed via the use of a single stranded DNA expression vector or equivalent thereof.

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By "RNase H activating region" is meant a region (generally greater than or equal to 4-25 nucleotides in length, preferably from 5-11 nucleotides in length) of a nucleic acid molecule capable of binding to a target nucleic acid to form a non-covalent complex that is recognized by cellular RNase H enzyme (see for example Arrow et al., US 5,849,902; Arrow et al., US 5,989,912). The RNase H enzyme binds to a nucleic acid molecule-target nucleic acid complex and cleaves the target nucleic acid sequence. The RNase H activating region comprises, for example, phosphodiester, phosphorothioate (preferably at least four of the nucleotides are phosphorothiote substitutions; more specifically, 4-11 of the nucleotides are phosphorothiote substitutions); phosphorodithioate, 5'-thiophosphate, or methylphosphonate backbone chemistry or a combination thereof. In addition to one or more backbone chemistries described above, the RNase H activating region can also comprise a variety of sugar chemistries. For example, the RNase H activating region can comprise deoxyribose, arabino, fluoroarabino or a combination thereof, nucleotide sugar chemistry. Those skilled in the art will recognize that the foregoing are non-limiting examples and that any combination of phosphate, sugar and base chemistry of a nucleic acid that supports the activity of RNase H enzyme is within the scope of the definition of the RNase H activating region and the instant invention.

By "2-5A antisense chimera" is meant an antisense oligonucleotide containing a 5'-phosphorylated 2'-5'-linked adenylate residue. These chimeras bind to target nucleic acid in a sequence-specific manner and activate a cellular 2-5A-dependent ribonuclease which, in turn, cleaves the target nucleic acid (Torrence *et al.*, 1993 *Proc. Natl. Acad. Sci. USA* 90, 1300;

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Silverman et al., 2000, Methods Enzymol., 313, 522-533; Player and Torrence, 1998, Pharmacol. Ther., 78, 55-113).

By "triplex forming oligonucleotides" is meant an oligonucleotide that can bind to a double-stranded polynucleotide, such as DNA, in a sequence-specific manner to form a triple-strand helix. Formation of such triple helix structure has been shown to inhibit transcription of the targeted gene (Duval-Valentin et al., 1992 Proc. Natl. Acad. Sci. USA 89, 504; Fox, 2000, Curr. Med. Chem., 7, 17-37; Praseuth et. al., 2000, Biochim. Biophys. Acta, 1489, 181-206).

By "gene" it is meant a nucleic acid that encodes an RNA, for example, nucleic acid sequences including but not limited to structural genes encoding a polypeptide.

The term "complementarity" as used herein refers to the ability of a nucleic acid to form hydrogen bond(s) with another nucleic acid sequence by either traditional Watson-Crick or other non-traditional types. In reference to nucleic molecules of the present invention, the binding free energy for a nucleic acid molecule with its target or complementary sequence is sufficient to allow the relevant function of the nucleic acid to proceed, e.g., enzymatic nucleic acid cleavage, antisense or triple helix inhibition. Determination of binding free energies for nucleic acid molecules is well known in the art (see, e.g., Turner et al., 1987, CSH Symp. Quant. Biol. LII pp.123-133; Frier et al., 1986, Proc. Nat. Acad. Sci. USA 83:9373-9377; Turner et al., 1987, J. Am. Chem. Soc. 109:3783-3785). A percent complementarity indicates the percentage of contiguous residues in a nucleic acid molecule which can form hydrogen bonds (e.g., Watson-Crick base pairing) with a second nucleic acid sequence (e.g., 5, 6, 7, 8, 9, 10 out of 10 being 50%, 60%, 70%, 80%, 90%, and 100% complementary). "Perfectly complementary" means that all the contiguous residues of a nucleic acid sequence will hydrogen bond with the same number of contiguous residues in a second nucleic acid sequence.

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By "RNA" is meant a molecule comprising at least one ribonucleotide residue. By "ribonucleotide" or "2'-OH" is meant a nucleotide with a hydroxyl group at the 2' position of a β -D-ribo-furanose moiety.

By "nucleic acid decoy molecule", or "decoy" as used herein is meant a nucleic acid molecule that mimics the natural binding domain for a ligand. The decoy therefore competes with the natural binding target for the binding of a specific ligand. For example, it has been shown that over-expression of HIV trans-activation response (TAR) RNA can act as a

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"decoy" and efficiently binds HIV tat protein, thereby preventing it from binding to TAR sequences encoded in the HIV RNA (Sullenger et al., 1990, *Cell*, 63, 601-608).

By "aptamer" or "nucleic acid aptamer" as used herein is meant a nucleic acid molecule that binds specifically to a target molecule wherein the nucleic acid molecule has sequence that is distinct from sequence recognized by the target molecule in its natural setting. Alternately, an aptamer can be a nucleic acid molecule that binds to a target molecule where the target molecule does not naturally bind to a nucleic acid. The target molecule can be any molecule of interest. For example, the aptamer can be used to bind to a ligand binding domain of a protein, thereby preventing interaction of the naturally occurring ligand with the protein. Similarly, the nucleic acid molecules of the instant invention can bind to VEGFR1 or VEGFR2 receptors to block activity of the receptor. This is a non-limiting example and those in the art will recognize that other embodiments can be readily generated using techniques generally known in the art, see for example Gold *et al.*, US 5,475,096 and 5,270,163; Gold *et al.*, 1995, *Annu. Rev. Biochem.*, 64, 763; Brody and Gold, 2000, *J. Biotechnol.*, 74, 5; Sun, 2000, *Curr. Opin. Mol. Ther.*, 2, 100; Kusser, 2000, *J. Biotechnol.*, 74, 27; Hermann and Patel, 2000, *Science*, 287, 820; and Jayasena, 1999, *Clinical Chemistry*, 45, 1628.

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The term "double stranded RNA" or "dsRNA" as used herein refers to a double stranded RNA molecule capable of RNA interference "RNAi", including short interfering RNA "siRNA" see for example Bass, 2001, *Nature*, 411, 428-429; Elbashir et al., 2001, *Nature*, 411, 494-498; and Kreutzer et al., International PCT Publication No. WO 00/44895; Zernicka-Goetz et al., International PCT Publication No. WO 01/36646; Fire, International PCT Publication No. WO 99/32619; Plaetinck et al., International PCT Publication No. WO 00/01846; Mello and Fire, International PCT Publication No. WO 01/29058; Deschamps-Depaillette, International PCT Publication No. WO 99/07409; and Li et al., International PCT Publication No. WO 00/44914.

By "nucleic acid sensor molecule" or "allozyme" as used herein is meant a nucleic acid molecule comprising an enzymatic domain and a sensor domain, where the enzymatic nucleic acid domain's ability to catalyze a chemical reaction is dependent on the interaction with a target signaling molecule, such as a nucleic acid, polynucleotide, oligonucleotide, peptide, polypeptide, or protein, for example VEGF, VEGFR1 and/or VEGFR2. The introduction of chemical modifications, additional functional groups, and/or linkers, to the nucleic acid sensor molecule can provide enhanced catalytic activity of the nucleic acid, and/or improved nuclease/chemical stability of the nucleic acid sensor molecule, and are

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hence within the scope of the present invention (see for example Usman et al., US Patent Application No. 09/877,526, George et al., US Patent Nos. 5,834,186 and 5,741,679, Shih et al., US Patent No. 5,589,332, Nathan et al., US Patent No 5,871,914, Nathan and Ellington, International PCT publication No. WO 00/24931, Breaker et al., International PCT Publication Nos. WO 00/26226 and 98/27104, and Sullenger et al., US Patent Application Serial No. 09/205,520).

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By "sensor component" or "sensor domain" of the nucleic acid sensor molecule as used herein is meant, a nucleic acid sequence (e.g., RNA or DNA or analogs thereof) which interacts with a target signaling molecule, for example a nucleic acid sequence in one or more regions of a target nucleic acid molecule or more than one target nucleic acid molecule, and which interaction causes the enzymatic nucleic acid component of the nucleic acid sensor molecule to either catalyze a reaction or stop catalyzing a reaction. In the presence of target signaling molecule of the invention, such as VEGF, VEGFR1 and/or VEGFR2, the ability of the sensor component, for example, to modulate the catalytic activity of the nucleic acid sensor molecule, is inhibited or diminished. The sensor component can comprise recognition properties relating to chemical or physical signals capable of modulating the nucleic acid sensor molecule via chemical or physical changes to the structure of the nucleic acid sensor molecule. The sensor component can be derived from a naturally occurring nucleic acid binding sequence, for example, RNAs that bind to other nucleic acid sequences in vivo. Alternately, the sensor component can be derived from a nucleic acid molecule (aptamer) which is evolved to bind to a nucleic acid sequence within a target nucleic acid molecule (see for example Gold et al., US 5,475,096 and 5,270,163). The sensor component can be covalently linked to the nucleic acid sensor molecule, or can be non-covalently associated. A person skilled in the art will recognize that all that is required is that the sensor component is able to selectively inhibit the activity of the nucleic acid sensor molecule to catalyze a reaction.

By "target molecule" or "target signaling molecule" is meant a molecule capable of interacting with a nucleic acid sensor molecule, specifically a sensor domain of a nucleic acid sensor molecule, in a manner that causes the nucleic acid sensor molecule to be active or inactive. The interaction of the signaling agent with a nucleic acid sensor molecule can result in modification of the enzymatic nucleic acid component of the nucleic acid sensor molecule via chemical, physical, topological, or conformational changes to the structure of the molecule, such that the activity of the enzymatic nucleic acid component of the nucleic acid sensor molecule is modulated, for example is activated or deactivated. Signaling agents can comprise target signaling molecules such as macromolecules, ligands, small molecules,

metals and ions, nucleic acid molecules including but not limited to RNA and DNA or analogs thereof, proteins, peptides, antibodies, polysaccharides, lipids, sugars, microbial or cellular metabolites, pharmaceuticals, and organic and inorganic molecules in a purified or unpurified form, for example VEGF, VEGFR1 and/or VEGFR2.

The term "triplex forming oligonucleotides" as used herein refers to an oligonucleotide that can bind to a double-stranded DNA in a sequence-specific manner to form a triple-strand helix. Formation of such a triple helix structure has been shown to inhibit transcription of a targeted gene (Duval-Valentin et al., 1992 Proc. Natl. Acad. Sci. USA 89, 504; Fox, 2000, Curr. Med. Chem., 7, 17-37; Praseuth et. al., 2000, Biochim. Biophys. Acta, 1489, 181-206).

The nucleic acid molecules that modulate the expression of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 specific nucleic acids, represent a novel therapeutic approach to treat or control a variety of angiogenesis related disorders and conditions, including but not limited to tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and/or endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), and/or menopausal dysfunction. The nucleic acid molecules that modulate the expression of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 specific nucleic acids also represent a novel approach to control ovulation or embryonic implantation and therefore provide a novel means of birth control.

In one embodiment of the present invention, a nucleic acid molecule of the instant invention can be between 12 and 100 nucleotides in length. An exemplary enzymatic nucleic acid molecule of the invention is shown as Formula I and/or Formula II. For example, enzymatic nucleic acid molecules of the invention are preferably between 15 and 50 nucleotides in length, more preferably between 25 and 40 nucleotides in length, e.g., 34, 36, or 38 nucleotides in length (for example see Jarvis et al., 1996, J. Biol. Chem., 271, 29107-29112). Exemplary DNAzymes of the invention are preferably between 15 and 40 nucleotides in length, more preferably between 25 and 35 nucleotides in length, e.g., 29, 30, 31, or 32 nucleotides in length (see for example Santoro et al., 1998, Biochemistry, 37, 13330-13342; Chartrand et al., 1995, Nucleic Acids Research, 23, 4092-4096). Exemplary antisense molecules of the invention are preferably between 15 and 75 nucleotides in length, more preferably between 20 and 35 nucleotides in length, e.g., 25, 26, 27, or 28 nucleotides in length (see for example Woolf et al., 1992, PNAS., 89, 7305-7309; Milner et al., 1997, Nature Biotechnology, 15, 537-541). Exemplary triplex forming oligonucleotide molecules of the invention are preferably between 10 and 40 nucleotides in length, more preferably

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between 12 and 25 nucleotides in length, e.g., 18, 19, 20, or 21 nucleotides in length (see for example Maher et al., 1990, Biochemistry, 29, 8820-8826; Strobel and Dervan, 1990, Science, 249, 73-75). Those skilled in the art will recognize that all that is required is that the nucleic acid molecule be of length and conformation sufficient and suitable for the nucleic acid molecule to catalyze a reaction contemplated herein. The length of the nucleic acid molecules of the instant invention are not limiting within the general limits stated.

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In a preferred embodiment, a nucleic acid molecule that modulates, for example, down-regulates, VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 replication or expression comprises between 8 and 100 bases complementary to a nucleic acid molecule of VEGFR1 and/or VEGFR2. More preferably, a nucleic acid molecule that modulates VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 replication or expression comprises between 14 and 24 bases complementary to a nucleic acid molecule of VEGFR1 and/or VEGFR2.

The invention provides a method for producing a class of nucleic acid—based gene modulating agents which exhibit a high degree of specificity for the nucleic acid of a desired target. For example, a nucleic acid molecule of the invention is preferably targeted to a highly conserved sequence region of target nucleic acids encoding VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 (specifically VEGF, VEGFR1 and/or VEGFR2 genes) such that specific treatment of a disease or condition can be provided with either one or several nucleic acid molecules of the invention. Such nucleic acid molecules can be delivered exogenously to specific tissue or cellular targets as required. Alternatively, the nucleic acid molecules can be expressed from DNA and/or RNA vectors that are delivered to specific cells.

As used in herein "cell" is used in its usual biological sense, and does not refer to an entire multicellular organism. The cell can, for example, be *in vitro*, e.g., in cell culture, or present in a multicellular organism, including,, e.g., birds, plants and mammals such as humans, cows, sheep, apes, monkeys, swine, dogs, and cats. The cell may be prokaryotic (e.g., bacterial cell) or eukaryotic (e.g., mammalian or plant cell).

By "VEGFR1 and/or VEGFR2 proteins" is meant, protein receptor or a mutant protein derivative thereof, having vascular endothelial growth factor receptor activity, for example, having the ability to bind vascular endothelial growth factor and/or having tyrosine kinase activity.

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By "highly conserved sequence region" is meant, a nucleotide sequence of one or more regions in a target gene does not vary significantly from one generation to the other or from one biological system to the other.

"Angiogenesis" refers to formation of new blood vessels which is an essential process in reproduction, development and wound repair. "Tumor angiogenesis" refers to the induction of the growth of blood vessels from surrounding tissue into a solid tumor. Tumor growth and tumor metastasis are dependent on angiogenesis (for a review see Folkman, 1985 supra; Folkman 1990 J. Natl. Cancer Inst., 82, 4; Folkman and Shing, 1992 J. Biol. Chem. 267, 10931).

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Angiogenesis plays an important role in other diseases such as arthritis wherein new blood vessels have been shown to invade the joints and degrade cartilage (Folkman and Shing, *supra*).

"Retinopathy" refers to inflammation of the retina and/or degenerative condition of the retina which may lead to occlusion of the retina and eventual blindness. In "diabetic retinopathy" angiogenesis causes the capillaries in the retina to invade the vitreous resulting in bleeding and blindness which is also seen in neonatal retinopathy (for a review see Folkman, 1985 supra; Folkman 1990 supra; Folkman and Shing, 1992 supra).

Nucleic acid-based inhibitors of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2, expression are useful for the prevention, treatment, and/or control of angiogenesis related disorders and conditions, including but not limited to, tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and/or endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), menopausal dysfunction, and other diseases or conditions that are related to or will respond to the levels of VEGF, VEGFR1 and/or VEGFR2 in a cell or tissue, alone or in combination with other therapies. The reduction of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 expression (specifically VEGF, VEGFR1 and/or VEGFR2 gene RNA levels) and thus reduction in the level of the respective protein relieves, to some degree, the symptoms of the disease or condition. Nucleic acid-based inhibitors of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 expression are also useful as birth control agents, for example by inhibition of ovulation or embryonic uterine implantation.

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The nucleic acid molecules of the invention can be added directly, or can be complexed with cationic lipids, packaged within liposomes, or otherwise delivered to target cells or tissues. The nucleic acid complexes can be locally administered to relevant tissues ex vivo, or in vivo through injection or infusion pump, with or without their incorporation in biopolymers. In preferred embodiments, the nucleic acid inhibitors comprise sequences, which are complementary to polynucleotides, for example DNA and RNA, having VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 sequence.

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Triplex molecules of the invention can be provided targeted to DNA target regions, and containing the DNA equivalent of a target sequence or a sequence complementary to the specified target (substrate) sequence. Antisense molecules typically are complementary to a target sequence along a single contiguous sequence of the antisense molecule. However, in certain embodiments, an antisense molecule can bind to substrate such that the substrate molecule forms a loop, and/or an antisense molecule can bind such that the antisense molecule forms a loop. Thus, the antisense molecule can be complementary to two (or even more) non-contiguous substrate sequences or two (or even more) non-contiguous sequence portions of an antisense molecule can be complementary to a target sequence or both.

By "consists essentially of" is meant that the active nucleic acid molecule of the invention, for example, an enzymatic nucleic acid molecule, contains an enzymatic center or core equivalent to those in the examples, and binding arms able to bind nucleic acid such that cleavage at the target site occurs. Other sequences can be present which do not interfere with such cleavage. Thus, a core region can, for example, include one or more loop, stem-loop structure, or linker which does not prevent enzymatic activity. Thus, a particular region of a nucleic acid molecule of the invention can be such a loop, stem-loop, nucleotide linker, and/or non-nucleotide linker and can be represented generally as sequence "X". Thus, a core region may, for example, include one or more loop or stem-loop structures which do not prevent enzymatic activity. For example, a core sequence for a hammerhead enzymatic nucleic acid can comprise a conserved sequence, such as 5'-CUGAUGAG-3' and 5'-CGAA-3' connected by "X", where X is 5'-GCCGUUAGGC-3' (SEO ID NO 5979), or any other Stem II region known in the art, or a nucleotide and/or non-nucleotide linker. Similarly, for other nucleic acid molecules of the instant invention, such as Inozyme, G-cleaver, amberzyme, zinzyme, DNAzyme, antisense, 2-5A antisense, triplex forming nucleic acid, aptamers, decoy nucleic acids, dsRNA or siRNA, other sequences or non-nucleotide linkers can be present that do not interfere with the function of the nucleic acid molecule.

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bacteria and others.

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Sequence X can be a linker of ≥ 2 nucleotides in length, preferably 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 26, 30, where the nucleotides can preferably be internally base-paired to form a stem of preferably ≥ 2 base pairs. Alternatively or in addition, sequence X can be a non-nucleotide linker. In yet another embodiment, the nucleotide linker X can be a nucleic acid aptamer, such as an ATP aptamer, HIV Rev aptamer (RRE), HIV Tat aptamer (TAR) and others (for a review see Gold *et al.*, 1995, *Annu. Rev. Biochem.*, 64, 763; and Szostak & Ellington, 1993, in *The RNA World*, ed. Gesteland and Atkins, pp. 511, CSH Laboratory Press). A nucleic acid aptamer includes a nucleic acid sequence capable of interacting with a ligand. The ligand can be any natural or a synthetic molecule, including but not limited to a resin, metabolites, nucleosides, nucleotides, drugs, toxins, transition state analogs, peptides, lipids, proteins, amino acids, nucleic acid molecules, hormones, carbohydrates, receptors, cells, viruses,

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In yet another embodiment, the non-nucleotide linker X is as defined herein. The term "non-nucleotide" as used herein include either abasic nucleotide, polyether, polyamine, polyamide, peptide, carbohydrate, lipid, or polyhydrocarbon compounds. Specific examples include those described by Seela and Kaiser, Nucleic Acids Res. 1990, 18:6353 and Nucleic Acids Res. 1987, 15:3113; Cload and Schepartz, J. Am. Chem. Soc. 1991, 113:6324; Richardson and Schepartz, J. Am. Chem. Soc. 1991, 113:5109; Ma et al., Nucleic Acids Res. 1993, 21:2585 and Biochemistry 1993, 32:1751; Durand et al., Nucleic Acids Res. 1990, 18:6353; McCurdy et al., Nucleosides & Nucleotides 1991, 10:287; Jschke et al., Tetrahedron Lett. 1993, 34:301; Ono et al., Biochemistry 1991, 30:9914; Arnold et al., International Publication No. WO 95/06731; Dudycz et al., International Publication No. WO 95/06731; Dudycz et al., International Publication No. WO 95/1910 and Ferentz and Verdine, J. Am. Chem. Soc. 1991, 113:4000, all hereby incorporated by reference herein.

A "non-nucleotide" further means any group or compound which can be incorporated into a nucleic acid chain in the place of one or more nucleotide units, including either sugar and/or phosphate substitutions, and allows the remaining bases to exhibit their enzymatic activity. The group or compound can be abasic in that it does not contain a commonly recognized nucleotide base, such as adenosine, guanine, cytosine, uracil or thymine. Thus, in one embodiment, the invention features an enzymatic nucleic acid molecule having one or more non-nucleotide moieties, and having enzymatic activity to cleave an RNA or DNA molecule.

In another aspect of the invention, nucleic acid molecules that interact with target nucleic acid molecules and down-regulate VEGF and/or VEGFr, such as VEGFR1 and/or

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VEGFR2 (specifically VEGF, VEGFR1 and/or VEGFR2 gene) activity are expressed from transcription units inserted into DNA or RNA vectors. The recombinant vectors are preferably DNA plasmids or viral vectors. Enzymatic nucleic acid molecule or antisense expressing viral vectors can be constructed based on, but not limited to, adeno-associated virus, retrovirus, adenovirus, or alphavirus. The recombinant vectors capable of expressing the enzymatic nucleic acid molecules or antisense are delivered as described above, and persist in target cells. Alternatively, viral vectors can be used that provide for transient expression of enzymatic nucleic acid molecules or antisense. Such vectors can be repeatedly administered as necessary. Once expressed, the enzymatic nucleic acid molecules or antisense bind to the target nucleic acid and down-regulate its function or expression. Delivery of enzymatic nucleic acid molecule or antisense expressing vectors can be systemic, such as by intravenous or intramuscular administration, by administration to target cells explanted from the patient followed by reintroduction into the patient, or by any other means that would allow for introduction into the desired target cell. Antisense DNA can be expressed via the use of a single stranded DNA intracellular expression vector.

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By "vectors" is meant any nucleic acid- and/or viral-based technique used to deliver a desired nucleic acid.

By "subject" or "patient" is meant an organism, which is a donor or recipient of explanted cells, or the cells themselves. "Subject" or "Patient" also refers to an organism to which the nucleic acid molecules of the invention can be administered. Preferably, a subject or patient is a mammal or mammalian cells. More preferably, a subject or patient is a human or human cells.

By "enhanced enzymatic activity" is meant to include activity measured in cells and/or in vivo where the activity is a reflection of both the catalytic activity and the stability of the nucleic acid molecules of the invention. In this invention, the product of these properties can be increased *in vivo* compared to an all RNA enzymatic nucleic acid or all DNA enzyme. In some cases, the activity or stability of the nucleic acid molecule can be decreased (i.e., less than ten-fold), but the overall activity of the nucleic acid molecule is enhanced, *in vivo*.

The nucleic acid molecules of the instant invention, individually, or in combination or in conjunction with other drugs, can be used to treat diseases or conditions discussed above. For example, to treat a disease or condition associated with the levels of VEGFR1 and/or VEGFR2, the patient can be treated, or other appropriate cells can be treated, as is evident to those skilled in the art, individually or in combination with one or more drugs under conditions suitable for the treatment.

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In a further embodiment, the described molecules of the invention can be used in combination with other known treatments to treat conditions or diseases discussed above. For example, the described molecules can be used in combination with one or more known therapeutic agents to treat angiogenesis related disorders and conditions, including but not limited to tumor angiogenesis, cancers such as breast cancer, lung cancer, colorectal cancer, renal cancer, pancreatic cancer, or melanoma, or ocular indications such as diabetic retinopathy, or age related macular degeneration, and/or endometriosis, birth control, endometrial tumors, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), menopausal dysfunction, endometrial carcinoma, and/or other diseases or conditions which respond to the modulation of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 expression.

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Other features and advantages of the invention will be apparent from the following description of the preferred embodiments thereof, and from the claims.

Brief Description of the Drawings

Figure 1 shows a secondary structure model of ANGIOZYME $^{\text{TM}}$ ribozyme bound to its RNA target.

- Figure 2 shows a time course of inhibition of primary tumor growth following systemic administration of ANGIOZYMETM in the LLC mouse model.
- Figure 3 shows inhibition of primary tumor growth following systemic administration of ANGIOZYMETM according to a certain dosing regimen in the LLC mouse model.
 - **Figure 4** shows a dose-dependent inhibition of tumor metastases following systemic administration of ANGIOZYME™ in a mouse colorectal model.
- Figure 5 is a graph showing the plasma concentration profile of ANGIOZYMETM after a single subcutaneous (SC) dose of 10, 30, 100 or 300 mg/m².

Figure 6 shows examples of chemically stabilized ribozyme motifs. HH Rz, represents hammerhead ribozyme motif (Usman *et al.*, 1996, *Curr. Op. Struct. Bio.*, 1, 527); NCH Rz represents the NCH ribozyme motif (Ludwig *et al.*, International PCT Publication No. WO 98/58058 and US Patent Application Serial No. 08/878,640); G-Cleaver, represents G-cleaver ribozyme motif (Kore *et al.*, 1998, *Nucleic Acids Research* 26, 4116-4120, Eckstein *et*

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al., US 6,127,173). N or n, represent independently a nucleotide which can be same or different and have complementarity to each other; rI, represents ribo-Inosine nucleotide; arrow indicates the site of cleavage within the target. Position 4 of the HH Rz and the NCH Rz is shown as having 2'-C-allyl modification, but those skilled in the art will recognize that this position can be modified with other modifications well known in the art, so long as such modifications do not significantly inhibit the activity of the ribozyme.

Figure 7 shows an example of a Zinzyme A ribozyme motif that is chemically stabilized (see for example Beigelman *et al.*, International PCT publication No. WO 99/55857 and US Patent Application Serial No. 09/918,728).

Figure 8 shows an example of a DNAzyme motif described by Santoro *et al.*, 1997, *PNAS*, 94, 4262 and Joyce *et al.*, US 5,807,718.

Figure 9 shows data demonstrating the inhibition of soluble VEGFR1 in a clinical study using ANGIOZYME (SEQ ID NO: 5977).

Figure 10 shows an generalized outline for the mouse model of proliferative retinopathy showing the points of ribozyme administration.

Figure 11 shows a graph demonstrating the efficacy of a VEGF-receptor-targeted enzymatic nucleic acid molecule in a mouse model of proliferative retinopathy.

Detailed Description of the Invention

Nucleic Acid Molecules and Mechanism of Action

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Enzymatic Nucleic Acid: Several varieties of naturally-occurring enzymatic nucleic acids are presently known. In addition, several *in vitro* selection (evolution) strategies (Orgel, 1979, *Proc. R. Soc. London*, B 205, 435) have been used to evolve new nucleic acid catalysts capable of catalyzing cleavage and ligation of phosphodiester linkages (Joyce, 1989, *Gene*, 82, 83-87; Beaudry *et al.*, 1992, *Science* 257, 635-641; Joyce, 1992, *Scientific American* 267, 90-97; Breaker *et al.*, 1994, *TIBTECH* 12, 268; Bartel *et al.*, 1993, *Science* 261:1411-1418; Szostak, 1993, *TIBS* 17, 89-93; Kumar *et al.*, 1995, *FASEB J.*, 9, 1183; Breaker, 1996, *Curr. Op. Biotech.*, 7, 442; Santoro *et al.*, 1997, *Proc. Natl. Acad. Sci.*, 94, 4262; Tang *et al.*, 1997, *RNA* 3, 914; Nakamaye & Eckstein, 1994, *supra*; Long & Uhlenbeck, 1994, supra; Ishizaka *et al.*, 1995, *supra*; Vaish *et al.*, 1997, *Biochemistry* 36, 6495; all of these are incorporated by reference herein). Each can catalyze a series of reactions including the hydrolysis of

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phosphodiester bonds in trans (and thus can cleave other nucleic acid molecules) under physiological conditions.

The enzymatic nature of an enzymatic nucleic acid molecule has significant advantages, one advantage being that the concentration of enzymatic nucleic acid molecule necessary to affect a therapeutic treatment is lower. This advantage reflects the ability of the enzymatic nucleic acid molecule to act enzymatically. Thus, a single enzymatic nucleic acid molecule is able to cleave many molecules of target nucleic acid. In addition, the enzymatic nucleic acid molecule is a highly specific inhibitor, with the specificity of inhibition depending not only on the base-pairing mechanism of binding to the target nucleic acid, but also on the mechanism of target nucleic acid cleavage. Single mismatches, or base-substitutions, near the site of cleavage can be chosen to completely eliminate catalytic activity of a enzymatic nucleic acid molecule.

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Nucleic acid molecules having an endonuclease enzymatic activity are able to repeatedly cleave other separate nucleic acid molecules in a nucleotide base sequence-specific manner. With the proper design, such enzymatic nucleic acid molecules can be targeted to RNA transcripts, and achieve efficient cleavage in vitro (Zaug et al., 324, Nature 429 1986; Uhlenbeck, 1987 Nature 328, 596; Kim et al., 84 Proc. Natl. Acad. Sci. USA 8788, 1987; Dreyfus, 1988, Einstein Quart. J. Bio. Med., 6, 92; Haseloff and Gerlach, 334 Nature 585, 1988; Cech, 260 JAMA 3030, 1988; and Jefferies et al., 17 Nucleic Acids Research 1371, 1989; Santoro et al., 1997 supra).

Because of their sequence specificity, trans-cleaving enzymatic nucleic acid molecules can be used as therapeutic agents for human disease (Usman & McSwiggen, 1995 Ann. Rep. Med. Chem. 30, 285-294; Christoffersen and Marr, 1995 J. Med. Chem. 38, 2023-2037). Enzymatic nucleic acid molecules can be designed to cleave specific nucleic acid targets within the background of cellular nucleic acid. Such a cleavage event renders the nucleic acid non-functional and abrogates protein expression from that nucleic acid. In this manner, synthesis of a protein associated with a disease state can be selectively inhibited (Warashina et al., 1999, Chemistry and Biology, 6, 237-250).

Enzymatic nucleic acid molecules of the invention that are allosterically regulated ("allozymes") can be used to down-regulate VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2, expression. These allosteric enzymatic nucleic acids or allozymes (see for example Usman *et al.*, US Patent Application No. 09/877,526, George *et al.*, US Patent Nos. 5,834,186 and 5,741,679, Shih *et al.*, US Patent No. 5,589,332, Nathan *et al.*, US Patent No 5,871,914, Nathan and Ellington, International PCT publication No. WO 00/24931, Breaker

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et al., International PCT Publication Nos. WO 00/26226 and 98/27104, and Sullenger et al., US Patent Application Serial No. 09/205,520) are designed to respond to a signaling agent, for example, mutant VEGFR1 and/or VEGFR2 protein, wild-type VEGFR1 and/or VEGFR2 protein, mutant VEGFR1 and/or VEGFR2 RNA, wild-type VEGFR1 and/or VEGFR2 RNA, other proteins and/or RNAs involved in VEGF signal transduction, compounds, metals, polymers, molecules and/or drugs that are targeted to VEGFR1 and/or VEGFR2 expression, which in turn modulates the activity of the enzymatic nucleic acid molecule. In response to interaction with a predetermined signaling agent, the activity of the allosteric enzymatic nucleic acid is activated or inhibited such that the expression of a particular target is selectively down-regulated. The target can comprise wild-type VEGFR1 and/or VEGFR2, mutant VEGFR1 and/or VEGFR2, and/or a predetermined component of the VEGF signal transduction pathway. In a specific example, allosteric enzymatic nucleic acid molecules that are activated by interaction with a RNA encoding VEGF protein are used as therapeutic agents in vivo. The presence of RNA encoding the VEGF protein activates the allosteric enzymatic nucleic acid molecule that subsequently cleaves the RNA encoding a VEGFR1 and/or VEGFR2 protein resulting in the inhibition of VEGFR1 and/or VEGFR2 protein expression.

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In another non-limiting example, an allozyme can be activated by a VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 protein, peptide, or mutant polypeptide that causes the allozyme to inhibit the expression of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 genes, by, for example, cleaving RNA encoded by VEGF, VEGFR1 and/or VEGFR2 gene. In this non-limiting example, the allozyme acts as a decoy to inhibit the function of VEGF, VEGFR1 and/or VEGFR2 and also inhibit the expression of VEGF, VEGFR1 and/or VEGFR2 protein.

Antisense: Antisense molecules can be modified or unmodified RNA, DNA, or mixed polymer oligonucleotides and primarily function by specifically binding to matching sequences resulting in inhibition of peptide synthesis (Wu-Pong, Nov 1994, *BioPharm*, 20-33). The antisense oligonucleotide binds to target RNA by Watson Crick base-pairing and blocks gene expression by preventing ribosomal translation of the bound sequences either by steric blocking or by activating RNase H enzyme. Antisense molecules can also alter protein synthesis by interfering with RNA processing or transport from the nucleus into the cytoplasm (Mukhopadhyay & Roth, 1996, *Crit. Rev. in Oncogenesis* 7, 151-190).

In addition, binding of single stranded DNA to RNA can result in nuclease degradation of the heteroduplex (Wu-Pong, *supra*; Crooke, *supra*). To date, the only backbone modified

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DNA chemistry which act as substrates for RNase H are phosphorothioates, phosphorodithioates, and borontrifluoridates. Recently it has been reported that 2'-arabino and 2'-fluoro arabino- containing oligos can also activate RNase H activity.

A number of antisense molecules have been described that utilize novel configurations of chemically modified nucleotides, secondary structure, and/or RNase H substrate domains (Woolf *et al.*, International PCT Publication No. WO 98/13526; Thompson *et al.*, International PCT Publication No. WO 99/54459; Hartmann *et al.*, USSN 60/101,174 which was filed on September 21, 1998) all of these are incorporated by reference herein in their entirety.

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In addition, antisense deoxyoligoribonucleotides can be used to target RNA by means of DNA-RNA interactions, thereby activating RNase H, which digests the target RNA in the duplex. Antisense DNA can be expressed via the use of a single stranded DNA intracellular expression vector or equivalents and variations thereof.

<u>Triplex Forming Oligonucleotides (TFO)</u>: Single stranded DNA can be designed to bind to genomic DNA in a sequence specific manner. TFOs are comprised of pyrimidine-rich oligonucleotides which bind DNA helices through Hoogsteen Base-pairing (Wu-Pong, *supra*). The resulting triple helix composed of the DNA sense, DNA antisense, and TFO disrupts RNA synthesis by RNA polymerase. The TFO mechanism can result in gene expression or cell death since binding can be irreversible (Mukhopadhyay & Roth, *supra*).

2-5A Antisense Chimera: The 2-5A system is an interferon mediated mechanism for RNA degradation found in higher vertebrates (Mitra et al., 1996, Proc Nat Acad Sci USA 93, 6780-6785). Two types of enzymes, 2-5A synthetase and RNase L, are required for RNA cleavage. The 2-5A synthetases require double stranded RNA to form 2'-5' oligoadenylates (2-5A). 2-5A then acts as an allosteric effector for utilizing RNase L which has the ability to cleave single stranded RNA. The ability to form 2-5A structures with double stranded RNA makes this system particularly useful for inhibition of viral replication.

(2'-5') oligoadenylate structures can be covalently linked to antisense molecules to form chimeric oligonucleotides capable of RNA cleavage (Torrence, *supra*). These molecules putatively bind and activate a 2-5A dependent RNase, the oligonucleotide/enzyme complex then binds to a target RNA molecule which can then be cleaved by the RNase enzyme.

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RNAi: Double-stranded RNAs can suppress expression of homologous genes through an evolutionarily conserved process named RNA interference (RNAi) or post-transcriptional gene silencing (PTGS). One mechanism underlying silencing is the degradation of target mRNAs by an RNP complex, which contains short interfering RNAs (siRNAs) as guides to substrate selection. Short interfering RNAs are typically 21 to 23 nucleotides in length. A bidentate nuclease called Dicer has been implicated as the protein responsible for siRNA production. For example, a double-stranded RNA (dsRNA) matching a gene sequence is synthesized *in vitro* and introduced into a cell. The dsRNA feeds into a biological pathway and is broken into short pieces of short interfering (si) RNAs. With the help of cellular enzymes such as Dicer, the siRNA triggers the degradation of the messenger RNA that matches its sequence (see for example Tuschl *et al.*, International PCT Publication No. WO 01/75164; Bass, 2001, *Nature*, 411, 428-429; Elbashir et al., 2001, *Nature*, 411, 494-498; and Kreutzer *et al.*, International PCT Publication No. WO 00/44895).

Target sites

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Targets for useful nucleic acid molecules of the invention, such as enzymatic nucleic acid molecules, dsRNA, and antisense nucleic acids can be determined as disclosed in Draper et al., WO 93/23569; Sullivan et al., WO 93/23057; Thompson et al., WO 94/02595; Draper et al., WO 95/04818; McSwiggen et al., US Patent No. 5,525,468, and hereby incorporated by reference herein in totality. Other examples include the following PCT applications, which concern inactivation of expression of disease-related genes: WO 95/23225, WO 95/13380, WO 94/02595, incorporated by reference herein. Rather than repeat the guidance provided in those documents here, below are provided specific examples of such methods. not limiting to those in the art. Enzymatic nucleic acid molecules and antisense to such targets are designed as described in those applications and synthesized to be tested in vitro and in vivo, as also described. The sequences of human VEGF, VEGFR1 and/or VEGFR2 RNAs are screened for optimal nucleic acid target sites using a computer-folding algorithm. Potential nucleic acid binding/cleavage sites are identified. While human sequences can be screened and nucleic acid molecules thereafter designed, as discussed in Stinchcomb et al., WO 95/23225, mouse targeted enzymatic nucleic acid molecules can be useful to test efficacy of action of the nucleic acid molecule prior to testing in humans.

Nucleic acid molecule binding/cleavage sites are identified, for example enzymatic nucleic acid, antisense, and dsRNA mediated binding sites are chosen. For enzymatic nucleic acid molecules of the invention, the nucleic acid molecules are individually analyzed by computer folding (Jaeger *et al.*, 1989 *Proc. Natl. Acad. Sci. USA*, 86, 7706) to assess whether

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the sequences fold into the appropriate secondary structure. Those nucleic acid molecules with unfavorable intramolecular interactions such as between the binding arms and the catalytic core can be eliminated from consideration. Varying binding arm lengths can be chosen to optimize activity.

Nucleic acids, such as antisense, RNAi, and/or enzymatic nucleic acid molecule binding/cleavage sites are identified and are designed to anneal to various sites in the nucleic acid target. The binding arms of enzymatic nucleic acid molecules of the invention are complementary to the target site sequences described above. Antisense and RNAi sequences are designed to have partial or complete complementarity to the nucleic acid target. The nucleic acid molecules can be chemically synthesized. The method of synthesis used follows the procedure for normal DNA/RNA synthesis as described below and in Usman et al., 1987 J. Am. Chem. Soc., 109, 7845; Scaringe et al., 1990 Nucleic Acids Res., 18, 5433; and Wincott et al., 1995 Nucleic Acids Res. 23, 2677-2684; Caruthers et al., 1992, Methods in Enzymology 211,3-19.

15 Synthesis of Nucleic acid Molecules

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Synthesis of nucleic acids greater than 100 nucleotides in length is difficult using automated methods, and the therapeutic cost of such molecules is prohibitive. In this invention, small nucleic acid motifs ("small refers to nucleic acid motifs less than about 100 nucleotides in length, preferably less than about 80 nucleotides in length, and more preferably less than about 50 nucleotides in length; *e.g.*, antisense oligonucleotides, enzymatic nucleic acids, aptamers, allozymes, decoys, siRNA etc.) are preferably used for exogenous delivery. The simple structure of these molecules increases the ability of the nucleic acid to invade targeted regions of RNA structure. Exemplary molecules of the instant invention are chemically synthesized, and others can similarly be synthesized.

DNA Oligonucleotides are synthesized using protocols known in the art as described in Caruthers et al., 1992, Methods in Enzymology 211, 3-19, Thompson et al., International PCT Publication No. WO 99/54459, Wincott et al., 1995, Nucleic Acids Res. 23, 2677-2684, Wincott et al., 1997, Methods Mol. Bio., 74, 59, Brennan et al., 1998, Biotechnol Bioeng., 61, 33-45, and Brennan, US patent No. 6,001,311. All of these references are incorporated herein by reference. The synthesis of oligonucleotides makes use of common nucleic acid protecting and coupling groups, such as dimethoxytrityl at the 5'-end, and phosphoramidites at the 3'-end. In a non-limiting example, small scale syntheses are conducted on a 394 Applied Biosystems, Inc. synthesizer using a 0.2 µmol scale protocol with a 2.5 min coupling step for 2'-O-methylated nucleotides and a 45 sec coupling step for 2'-deoxy nucleotides. Table II

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outlines the amounts and the contact times of the reagents used in the synthesis cycle. Alternatively, syntheses at the 0.2 µmol scale can be performed on a 96-well plate synthesizer, such as the instrument produced by Protogene (Palo Alto, CA) with minimal modification to the cycle. A 33-fold excess (60 μ L of 0.11 M = 6.6 μ mol) of 2'-O-methyl phosphoramidite and a 105-fold excess of S-ethyl tetrazole (60 μ L of 0.25 M = 15 μ mol) can be used in each coupling cycle of 2'-O-methyl residues relative to polymer-bound 5'hydroxyl. A 22-fold excess (40 μ L of 0.11 M = 4.4 μ mol) of deoxy phosphoramidite and a 70-fold excess of S-ethyl tetrazole (40 μ L of 0.25 M = 10 μ mol) can be used in each coupling cycle of deoxy residues relative to polymer-bound 5'-hydroxyl. Average coupling yields on the 394 Applied Biosystems, Inc. synthesizer, determined by colorimetric quantitation of the trityl fractions, are typically 97.5-99%. Other oligonucleotide synthesis reagents for the 394 Applied Biosystems, Inc. synthesizer include; detritylation solution is 3% TCA in methylene chloride (ABI); capping is performed with 16% N-methyl imidazole in THF (ABI) and 10% acetic anhydride/10% 2,6-lutidine in THF (ABI); and oxidation solution is 16.9 mM I₂, 49 mM pyridine, 9% water in THF (PERSEPTIVETM). Burdick & Jackson Synthesis Grade acetonitrile is used directly from the reagent bottle. S-Ethyltetrazole solution (0.25 M in acetonitrile) is made up from the solid obtained from American International Chemical, Inc. Alternately, for the introduction of phosphorothioate linkages, Beaucage reagent (3H-1.2-Benzodithiol-3-one 1,1-dioxide, 0.05 M in acetonitrile) is used.

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Deprotection of the DNA polynucleotides is performed as follows: the polymer-bound trityl-on oligoribonucleotide is transferred to a 4 mL glass screw top vial and suspended in a solution of 40% aq. methylamine (1 mL) at 65 °C for 10 min. After cooling to -20 °C, the supernatant is removed from the polymer support. The support is washed three times with 1.0 mL of EtOH:MeCN:H2O/3:1:1, vortexed and the supernatant is then added to the first supernatant. The combined supernatants, containing the oligoribonucleotide, are dried to a white powder.

The method of synthesis used for RNA oligonucleotides including certain nucleic acid molecules of the invention follows the procedure as described in Usman *et al.*, 1987, *J. Am. Chem. Soc.*, 109, 7845; Scaringe *et al.*, 1990, *Nucleic Acids Res.*, 18, 5433; and Wincott *et al.*, 1995, *Nucleic Acids Res.* 23, 2677-2684 Wincott *et al.*, 1997, *Methods Mol. Bio.*, 74, 59, and makes use of common nucleic acid protecting and coupling groups, such as dimethoxytrityl at the 5'-end, and phosphoramidites at the 3'-end. In a non-limiting example, small scale syntheses are conducted on a 394 Applied Biosystems, Inc. synthesizer using a 0.2 µmol scale protocol with a 7.5 min coupling step for alkylsilyl protected nucleotides and a 2.5 min coupling step for 2'-O-methylated nucleotides. **Table II** outlines the amounts and the

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contact times of the reagents used in the synthesis cycle. Alternatively, syntheses at the 0.2 µmol scale can be done on a 96-well plate synthesizer, such as the instrument produced by Protogene (Palo Alto, CA) with minimal modification to the cycle. A 33-fold excess (60 µL of 0.11 M = 6.6 μ mol) of 2'-O-methyl phosphoramidite and a 75-fold excess of S-ethyl tetrazole (60 µL of 0.25 M = 15 µmol) can be used in each coupling cycle of 2'-O-methyl residues relative to polymer-bound 5'-hydroxyl. A 66-fold excess (120 μ L of 0.11 M = 13.2 µmol) of alkylsilyl (ribo) protected phosphoramidite and a 150-fold excess of S-ethyl tetrazole (120 μ L of 0.25 M = 30 μ mol) can be used in each coupling cycle of ribo residues relative to polymer-bound 5'-hydroxyl. Average coupling yields on the 394 Applied Biosystems, Inc. synthesizer, determined by colorimetric quantitation of the trityl fractions, are typically 97.5-99%. Other oligonucleotide synthesis reagents for the 394 Applied Biosystems, Inc. synthesizer include; detritylation solution is 3% TCA in methylene chloride (ABI); capping is performed with 16% N-methyl imidazole in THF (ABI) and 10% acetic anhydride/10% 2,6-lutidine in THF (ABI); oxidation solution is 16.9 mM I₂, 49 mM pyridine, 9% water in THF (PERSEPTIVE™). Burdick & Jackson Synthesis Grade acetonitrile is used directly from the reagent bottle. S-Ethyltetrazole solution (0.25 M in acetonitrile) is made up from the solid obtained from American International Chemical, Inc. Alternately, for the introduction of phosphorothioate linkages, Beaucage reagent (3H-1,2-Benzodithiol-3-one 1,1dioxide0.05 M in acetonitrile) is used.

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Deprotection of the RNA is performed using either a two-pot or one-pot protocol. For the two-pot protocol, the polymer-bound trityl-on oligoribonucleotide is transferred to a 4 mL glass screw top vial and suspended in a solution of 40% aq. methylamine (1 mL) at 65 °C for 10 min. After cooling to -20 °C, the supernatant is removed from the polymer support. The support is washed three times with 1.0 mL of EtOH:MeCN:H2O/3:1:1, vortexed and the supernatant is then added to the first supernatant. The combined supernatants, containing the oligoribonucleotide, are dried to a white powder. The base deprotected oligoribonucleotide is resuspended in anhydrous TEA/HF/NMP solution (300 μ L of a solution of 1.5 mL N-methylpyrrolidinone, 750 μ L TEA and 1 mL TEA•3HF to provide a 1.4 M HF concentration) and heated to 65 °C. After 1.5 h, the oligomer is quenched with 1.5 M NH₄HCO₃.

Alternatively, for the one-pot protocol, the polymer-bound trityl-on oligoribonucleotide is transferred to a 4 mL glass screw top vial and suspended in a solution of 33% ethanolic methylamine/DMSO: 1/1~(0.8~mL) at 65 °C for 15 min. The vial is brought to r.t. TEA•3HF (0.1 mL) is added and the vial is heated at 65 °C for 15 min. The sample is cooled at -20~°C and then quenched with 1.5 M NH₄HCO₃.

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For purification of the trityl-on oligomers, the quenched NH₄HCO₃ solution is loaded onto a C-18 containing cartridge that had been prewashed with acetonitrile followed by 50 mM TEAA. After washing the loaded cartridge with water, the RNA is detritylated with 0.5% TFA for 13 min. The cartridge is then washed again with water, salt exchanged with 1 M NaCl and washed with water again. The oligonucleotide is then eluted with 30% acetonitrile.

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Inactive hammerhead ribozymes or binding attenuated control (BAC) oligonucleotides) are synthesized by substituting a U for G5 and a U for A14 (numbering from Hertel, K. J., et al., 1992, Nucleic Acids Res., 20, 3252). Similarly, one or more nucleotide substitutions can be introduced in other enzymatic nucleic acid molecules to inactivate the molecule and such molecules can serve as a negative control.

The average stepwise coupling yields are typically >98% (Wincott *et al.*, 1995 *Nucleic Acids Res.* 23, 2677-2684). Those of ordinary skill in the art will recognize that the scale of synthesis can be adapted to be larger or smaller than the example described above including but not limited to 96 well format, all that is important is the ratio of chemicals used in the reaction.

Alternatively, the nucleic acid molecules of the present invention can be synthesized separately and joined together post-synthetically, for example by ligation (Moore et al., 1992, Science 256, 9923; Draper et al., International PCT publication No. WO 93/23569; Shabarova et al., 1991, Nucleic Acids Research 19, 4247; Bellon et al., 1997, Nucleosides & Nucleotides, 16, 951; Bellon et al., 1997, Bioconjugate Chem. 8, 204).

Preferably, the nucleic acid molecules of the present invention are modified extensively to enhance stability by modification with nuclease resistant groups, for example, 2'-amino, 2'-C-allyl, 2'-flouro, 2'-O-methyl, 2'-H (for a review see Usman and Cedergren, 1992, TIBS 17, 34; Usman et al., 1994, Nucleic Acids Symp. Ser. 31, 163). Ribozymes are purified by gel electrophoresis using general methods or are purified by high pressure liquid chromatography (HPLC; See Wincott et al., Supra, the totality of which is hereby incorporated herein by reference) and are re-suspended in water.

Optimizing Activity of the nucleic acid molecule of the invention.

Chemically synthesizing nucleic acid molecules with modifications (base, sugar and/or phosphate) that prevent their degradation by serum ribonucleases can increase their potency (see e.g., Eckstein et al., International Publication No. WO 92/07065; Perrault et al., 1990 Nature 344, 565; Pieken et al., 1991, Science 253, 314; Usman and Cedergren, 1992, Trends

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in Biochem. Sci. 17, 334; Usman et al., International Publication No. WO 93/15187; and Rossi et al., International Publication No. WO 91/03162; Sproat, US Patent No. 5,334,711; Gold et al., US 6,300,074; and Burgin et al., supra; all of which are incorporated by reference herein). Modifications which enhance their efficacy in cells, and removal of bases from nucleic acid molecules to shorten oligonucleotide synthesis times and reduce chemical requirements are desired. (All these publications are hereby incorporated by reference herein).

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There are several examples in the art describing sugar, base and phosphate modifications that can be introduced into nucleic acid molecules with significant enhancement in their nuclease stability and efficacy. For example, oligonucleotides are modified to enhance stability and/or enhance biological activity by modification with nuclease resistant groups, for example, 2'-amino, 2'-C-allyl, 2'-flouro, 2'-O-methyl, 2'-H, nucleotide base modifications (for a review see Usman and Cedergren, 1992, TIBS, 17, 34; Usman et al., 1994, Nucleic Acids Symp. Ser. 31, 163; Burgin et al., 1996, Biochemistry, 35, 14090). Sugar modification of nucleic acid molecules have been extensively described in the art (see Eckstein et al., International Publication PCT No. WO 92/07065; Perrault et al. Nature, 1990, 344, 565-568; Pieken et al. Science, 1991, 253, 314-317; Usman and Cedergren, Trends in Biochem. Sci., 1992, 17, 334-339; Usman et al. International Publication PCT No. WO 93/15187; Sproat, US Patent No. 5,334,711 and Beigelman et al., 1995, J. Biol. Chem., 270, 25702; Beigelman et al., International PCT publication No. WO 97/26270; Beigelman et al., US Patent No. 5,716,824; Usman et al., US patent No. 5,627,053; Woolf et al., International PCT Publication No. WO 98/13526; Thompson et al., USSN 60/082,404 which was filed on April 20, 1998; Karpeisky et al., 1998, Tetrahedron Lett., 39, 1131; Earnshaw and Gait, 1998, Biopolymers (Nucleic acid Sciences), 48, 39-55; Verma and Eckstein, 1998, Annu. Rev. Biochem., 67, 99-134; and Burlina et al., 1997, Bioorg. Med. Chem., 5, 1999-2010; all of the references are hereby incorporated in their totality by reference herein). Such publications describe general methods and strategies to determine the location of incorporation of sugar, base and/or phosphate modifications and the like into ribozymes without inhibiting catalysis, and are incorporated by reference herein. In view of such teachings, similar modifications can be used as described herein to modify the nucleic acid molecules of the instant invention.

While chemical modification of oligonucleotide internucleotide linkages with phosphorothioate, phosphorothioate, and/or 5'-methylphosphonate linkages improves stability, too many of these modifications can cause some toxicity. Therefore when designing nucleic acid molecules the amount of these internucleotide linkages should be minimized.

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The reduction in the concentration of these linkages should lower toxicity resulting in increased efficacy and higher specificity of these molecules.

Nucleic acid molecules having chemical modifications that maintain or enhance activity are provided. Such nucleic acid is also generally more resistant to nucleases than unmodified nucleic acid. Thus, in a cell and/or *in vivo* the activity may not be significantly lowered. Therapeutic nucleic acid molecules delivered exogenously are optimally stable within cells until translation of the target RNA has been inhibited long enough to reduce the levels of the undesirable protein. This period of time varies between hours to days depending upon the disease state. Clearly, nucleic acid molecules must be resistant to nucleases in order to function as effective intracellular therapeutic agents. Improvements in the chemical synthesis of RNA and DNA (Wincott *et al.*, 1995 *Nucleic Acids Res.* 23, 2677; Caruthers *et al.*, 1992, *Methods in Enzymology* 211,3-19 (incorporated by reference herein) have expanded the ability to modify nucleic acid molecules by introducing nucleotide modifications to enhance their nuclease stability as described above.

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In one embodiment, nucleic acid molecules of the invention include one or more G-clamp nucleotides. A G-clamp nucleotide is a modified cytosine analog wherein the modifications confer the ability to hydrogen bond both Watson-Crick and Hoogsteen faces of a complementary guanine within a duplex, see for example Lin and Matteucci, 1998, *J. Am. Chem. Soc.*, 120, 8531-8532. A single G-clamp analog substitution within an oligonucleotide can result in substantially enhanced helical thermal stability and mismatch discrimination when hybridized to complementary oligonucleotides. The inclusion of such nucleotides in nucleic acid molecules of the invention results in both enhanced affinity and specificity to nucleic acid targets. In another embodiment, nucleic acid molecules of the invention include one or more LNA "locked nucleic acid" nucleotides such as a 2', 4'-C mythylene bicyclo nucleotide (see for example Wengel *et al.*, International PCT Publication No. WO 00/66604 and WO 99/14226).

In another embodiment, the invention features conjugates and/or complexes of nucleic acid molecules targeting VEGF receptors such as VEGFR1 and/or VEGFR2. Such conjugates and/or complexes can be used to facilitate delivery of molecules into a biological system, such as cells. The conjugates and complexes provided by the instant invention can impart therapeutic activity by transferring therapeutic compounds across cellular membranes, altering the pharmacokinetics, and/or modulating the localization of nucleic acid molecules of the invention. The present invention encompasses the design and synthesis of novel conjugates and complexes for the delivery of molecules, including but not limited to small

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molecules, lipids, phospholipids, nucleosides, nucleotides, nucleic acids, antibodies, toxins, negatively charged polymers and other polymers, for example proteins, peptides, hormones, carbohydrates, polyethylene glycols, or polyamines, across cellular membranes. In general, the transporters described are designed to be used either individually or as part of a multicomponent system, with or without degradable linkers. These compounds are expected to improve delivery and/or localization of nucleic acid molecules of the invention into a number of cell types originating from different tissues, in the presence or absence of serum (see Sullenger and Cech, US 5,854,038). Conjugates of the molecules described herein can be attached to biologically active molecules via linkers that are biodegradable, such as biodegradable nucleic acid linker molecules.

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The term "biodegradable nucleic acid linker molecule" as used herein, refers to a nucleic acid molecule that is designed as a biodegradable linker to connect one molecule to another molecule, for example, a biologically active molecule. The stability of the biodegradable nucleic acid linker molecule can be modulated by using various combinations of ribonucleotides, deoxyribonucleotides, and chemically modified nucleotides, for example, 2'-O-methyl, 2'-fluoro, 2'-amino, 2'-O-amino, 2'-C-allyl, 2'-O-allyl, and other 2'-modified or base modified nucleotides. The biodegradable nucleic acid linker molecule can be a dimer, trimer, tetramer or longer nucleic acid molecule, for example, an oligonucleotide of about 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 nucleotides in length, or can comprise a single nucleotide with a phosphorus based linkage, for example, a phosphoramidate or phosphodiester linkage. The biodegradable nucleic acid linker molecule can also comprise nucleic acid backbone, nucleic acid sugar, or nucleic acid base modifications.

The term "biodegradable" as used herein, refers to degradation in a biological system, for example enzymatic degradation or chemical degradation.

The term "biologically active molecule" as used herein, refers to compounds or molecules that are capable of eliciting or modifying a biological response in a system. Non-limiting examples of biologically active molecules contemplated by the instant invention include therapeutically active molecules such as antibodies, hormones, antivirals, peptides, proteins, chemotherapeutics, small molecules, vitamins, co-factors, nucleosides, nucleotides, oligonucleotides, enzymatic nucleic acids, antisense nucleic acids, triplex forming oligonucleotides, 2,5-A chimeras, siRNA, dsRNA, allozymes, aptamers, decoys and analogs thereof. Biologically active molecules of the invention also include molecules capable of modulating the pharmacokinetics and/or pharmacodynamics of other biologically active

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molecules, for example, lipids and polymers such as polyamines, polyamides, polyethylene glycol and other polyethers.

The term "phospholipid" as used herein, refers to a hydrophobic molecule comprising at least one phosphorus group. For example, a phospholipid can comprise a phosphorus containing group and saturated or unsaturated alkyl group, optionally substituted with OH, COOH, oxo, amine, or substituted or unsubstituted aryl groups.

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Therapeutic nucleic acid molecules (e.g., enzymatic nucleic acid molecules and antisense nucleic acid molecules) delivered exogenously are optimally stable within cells until translation of the target RNA has been inhibited long enough to reduce the levels of the undesirable protein. This period of time varies between hours to days depending upon the disease state. These nucleic acid molecules should be resistant to nucleases in order to function as effective intracellular therapeutic agents. Improvements in the chemical synthesis of nucleic acid molecules described in the instant invention and in the art have expanded the ability to modify nucleic acid molecules by introducing nucleotide modifications to enhance their nuclease stability as described above.

In another embodiment, nucleic acid catalysts having chemical modifications that maintain or enhance enzymatic activity are provided. Such nucleic acids are also generally more resistant to nucleases than unmodified nucleic acid. Thus, in a cell and/or *in vivo* the activity of the nucleic acid may not be significantly lowered. As exemplified herein such enzymatic nucleic acids are useful in a cell and/or *in vivo* even if activity over all is reduced 10 fold (Burgin *et al.*, 1996, *Biochemistry*, 35, 14090). Such enzymatic nucleic acids herein are said to "maintain" the enzymatic activity of an all RNA ribozyme or all DNA DNAzyme.

In another aspect the nucleic acid molecules comprise a 5' and/or a 3'- cap structure.

By "cap structure" is meant chemical modifications, which have been incorporated at either terminus of the oligonucleotide (see for example Wincott *et al.*, WO 97/26270, incorporated by reference herein). These terminal modifications protect the nucleic acid molecule from exonuclease degradation, and can help in delivery and/or localization within a cell. The cap can be present at the 5'-terminus (5'-cap) or at the 3'-terminus (3'-cap) or can be present on both terminus. In non-limiting examples, the 5'-cap includes inverted abasic residue (moiety), 4',5'-methylene nucleotide; 1-(beta-D-erythrofuranosyl) nucleotide, 4'-thio nucleotide, carbocyclic nucleotide; 1,5-anhydrohexitol nucleotide; L-nucleotides; alphanucleotides; modified base nucleotide; phosphorodithioate linkage; *threo*-pentofuranosyl nucleotide; acyclic 3',4'-seco nucleotide; acyclic 3,4-dihydroxybutyl nucleotide; acyclic 3,5-

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dihydroxypentyl nucleotide, 3'-3'-inverted nucleotide moiety; 3'-3'-inverted abasic moiety; 3'-2'-inverted nucleotide moiety; 3'-2'-inverted abasic moiety; 1,4-butanediol phosphate; 3'-phosphoramidate; hexylphosphate; aminohexyl phosphate; 3'-phosphorothioate; phosphorodithioate; or bridging or non-bridging methylphosphonate moiety (for more details see Wincott *et al.*, International PCT publication No. WO 97/26270, incorporated by reference herein).

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In another embodiment the 3'-cap includes, for example 4',5'-methylene nucleotide; 1-(beta-D-erythrofuranosyl) nucleotide; 4'-thio nucleotide, carbocyclic nucleotide; 5'-amino-alkyl phosphate; 1,3-diamino-2-propyl phosphate, 3-aminopropyl phosphate; 6-aminohexyl phosphate; 1,2-aminododecyl phosphate; hydroxypropyl phosphate; 1,5-anhydrohexitol nucleotide; L-nucleotide; alpha-nucleotide; modified base nucleotide; phosphorodithioate; threo-pentofuranosyl nucleotide; acyclic 3',4'-seco nucleotide; 3,4-dihydroxybutyl nucleotide; 3,5-dihydroxypentyl nucleotide, 5'-5'-inverted nucleotide moiety; 5'-5'-inverted abasic moiety; 5'-phosphoramidate; 5'-phosphorothioate; 1,4-butanediol phosphate; 5'-amino; bridging and/or non-bridging 5'-phosphoramidate, phosphorothioate and/or phosphorodithioate, bridging or non bridging methylphosphonate and 5'-mercapto moieties (for more details see Beaucage and Iyer, 1993, Tetrahedron 49, 1925; incorporated by reference herein).

By the term "non-nucleotide" is meant any group or compound which can be incorporated into a nucleic acid chain in the place of one or more nucleotide units, including either sugar and/or phosphate substitutions, and allows the remaining bases to exhibit their enzymatic activity. The group or compound is abasic in that it does not contain a commonly recognized nucleotide base, such as adenosine, guanine, cytosine, uracil or thymine.

An "alkyl" group refers to a saturated aliphatic hydrocarbon, including straight-chain, branched-chain, and cyclic alkyl groups. Preferably, the alkyl group has 1 to 12 carbons. More preferably it is a lower alkyl of from 1 to 7 carbons, more preferably 1 to 4 carbons. The alkyl group can be substituted or unsubstituted. When substituted the substituted group(s) is preferably, hydroxyl, cyano, alkoxy, =0, =S, NO₂ or N(CH₃)₂, amino, or SH. The term also includes alkenyl groups which are unsaturated hydrocarbon groups containing at least one carbon-carbon double bond, including straight-chain, branched-chain, and cyclic groups. Preferably, the alkenyl group has 1 to 12 carbons. More preferably it is a lower alkenyl of from 1 to 7 carbons, more preferably 1 to 4 carbons. The alkenyl group can be substituted or unsubstituted. When substituted the substituted group(s) is preferably, hydroxyl, cyano, alkoxy, =O, =S, NO₂, halogen, N(CH₃)₂, amino, or SH. The term "alkyl" also includes alkynyl groups which have an unsaturated hydrocarbon group containing at least

one carbon-carbon triple bond, including straight-chain, branched-chain, and cyclic groups. Preferably, the alkynyl group has 1 to 12 carbons. More preferably it is a lower alkynyl of from 1 to 7 carbons, more preferably 1 to 4 carbons. The alkynyl group can be substituted or unsubstituted. When substituted the substituted group(s) is preferably, hydroxyl, cyano, alkoxy, =0, =S, NO₂ or N(CH₃)₂, amino or SH.

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Such alkyl groups can also include aryl, alkylaryl, carbocyclic aryl, heterocyclic aryl, amide and ester groups. An "aryl" group refers to an aromatic group which has at least one ring having a conjugated p electron system and includes carbocyclic aryl, heterocyclic aryl and biaryl groups, all of which can be optionally substituted. The preferred substituent(s) of aryl groups are halogen, trihalomethyl, hydroxyl, SH, OH, cyano, alkoxy, alkyl, alkenyl, alkynyl, and amino groups. An "alkylaryl" group refers to an alkyl group (as described above) covalently joined to an aryl group (as described above). Carbocyclic aryl groups are groups wherein the ring atoms on the aromatic ring are all carbon atoms. The carbon atoms are optionally substituted. Heterocyclic aryl groups are groups having from 1 to 3 heteroatoms as ring atoms in the aromatic ring and the remainder of the ring atoms are carbon atoms. Suitable heteroatoms include oxygen, sulfur, and nitrogen, and include furanyl, thienyl, pyrrolyl, N-lower alkyl pyrrolo, pyrimidyl, pyrazinyl, imidazolyl and the like, all optionally substituted. An "amide" refers to an -C(O)-NH-R, where R is either alkyl, aryl, alkylaryl or hydrogen. An "ester" refers to an -C(O)-OR', where R is either alkyl, aryl, alkylaryl or hydrogen.

By "nucleotide" is meant a heterocyclic nitrogenous base in N-glycosidic linkage with a phosphorylated sugar. Nucleotides are recognized in the art to include natural bases (standard), and modified bases well known in the art. Such bases are generally located at the 1' position of a nucleotide sugar moiety. Nucleotides generally comprise a base, sugar and a phosphate group. The nucleotides can be unmodified or modified at the sugar, phosphate and/or base moiety, (also referred to interchangeably as nucleotide analogs, modified nucleotides, non-natural nucleotides, non-standard nucleotides and other; see for example, Usman and McSwiggen, supra; Eckstein *et al.*, International PCT Publication No. WO 92/07065; Usman *et al.*, International PCT Publication No. WO 93/15187; Uhlman & Peyman, supra all are hereby incorporated by reference herein). There are several examples of modified nucleic acid bases known in the art as summarized by Limbach *et al.*, 1994, Nucleic Acids Res. 22, 2183. Some of the non-limiting examples of chemically modified and other natural nucleic acid bases that can be introduced into nucleic acids include, for example, inosine, purine, pyridin-4-one, pyridin-2-one, phenyl, pseudouracil, 2, 4, 6-trimethoxy benzene, 3-methyl uracil, dihydrouridine, naphthyl, aminophenyl, 5-alkylcytidinės (e.g.,

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5-methylcytidine), 5-alkyluridines (e.g., ribothymidine), 5-halouridine (e.g., 5-bromouridine) or 6-azapyrimidines or 6-alkylpyrimidines (e.g. 6-methyluridine), propyne, quesosine, 2thiouridine, 4-thiouridine, wybutosine, wybutoxosine, 4-acetylcytidine, 5-(carboxyhydroxymethyl)uridine, 5'-carboxymethylaminomethyl-2-thiouridine, 5carboxymethylaminomethyluridine, beta-D-galactosylqueosine, 1-methyladenosine, 1methylinosine, 2,2-dimethylguanosine, 3-methylcytidine, 2-methyladenosine, 2methylguanosine. N6-methyladenosine, 7-methylguanosine, 5-methoxyaminomethyl-2thiouridine, 5-methylaminomethyluridine, 5-methylcarbonylmethyluridine. 5methyloxyuridine, 5-methyl-2-thiouridine, 2-methylthio-N6-isopentenyladenosine, beta-Dmannosylqueosine, uridine-5-oxyacetic acid, 2-thiocytidine, threonine derivatives and others (Burgin et al., 1996, Biochemistry, 35, 14090; Uhlman & Peyman, supra). By "modified bases" in this aspect is meant nucleotide bases other than adenine, guanine, cytosine and uracil at 1' position or their equivalents; such bases can be used at any position, for example, within the catalytic core of an enzymatic nucleic acid molecule and/or in the substrate-binding regions of the nucleic acid molecule.

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By "nucleoside" is meant a heterocyclic nitrogenous base in N-glycosidic linkage with a sugar. Nucleosides are recognized in the art to include natural bases (standard), and modified bases well known in the art. Such bases are generally located at the 1' position of a nucleoside sugar moiety. Nucleosides generally comprise a base and sugar group. The nucleosides can be unmodified or modified at the sugar, and/or base moiety, (also referred to interchangeably as nucleoside analogs, modified nucleosides, non-natural nucleosides, nonstandard nucleosides and other; see for example, Usman and McSwiggen, supra; Eckstein et al., International PCT Publication No. WO 92/07065; Usman et al., International PCT Publication No. WO 93/15187; Uhlman & Peyman, supra all are hereby incorporated by reference herein). There are several examples of modified nucleic acid bases known in the art as summarized by Limbach et al., 1994, Nucleic Acids Res. 22, 2183. Some of the nonlimiting examples of chemically modified and other natural nucleic acid bases that can be introduced into nucleic acids include, inosine, purine, pyridin-4-one, pyridin-2-one, phenyl, pseudouracil, 2, 4, 6-trimethoxy benzene, 3-methyl uracil, dihydrouridine, naphthyl, aminophenyl, 5-alkylcytidines (e.g., 5-methylcytidine), 5-alkyluridines (e.g., ribothymidine), 5-halouridine (e.g., 5-bromouridine) or 6-azapyrimidines or 6-alkylpyrimidines (e.g. 6methyluridine), propyne, quesosine, 2-thiouridine, 4-thiouridine, wybutosine, wybutososine, 4-acetylcytidine, 5-(carboxyhydroxymethyl)uridine, 5'-carboxymethylaminomethyl-2thiouridine, 5-carboxymethylaminomethyluridine, beta-D-galactosylqueosine. 1-2.2-dimethylguanosine, methyladenosine, 1-methylinosine, 3-methylcytidine. 2methyladenosine. 2-methylguanosine, N6-methyladenosine, 7-methylguanosine, 5-

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methoxyaminomethyl-2-thiouridine, 5-methylaminomethyluridine, 5-methylcarbonylmethyluridine, 5-methyloxyuridine, 5-methyl-2-thiouridine, 2-methylthio-N6-isopentenyladenosine, beta-D-mannosylqueosine, uridine-5-oxyacetic acid, 2-thiocytidine, threonine derivatives and others (Burgin *et al.*, 1996, Biochemistry, 35, 14090; Uhlman & Peyman, supra). By "modified bases" in this aspect is meant nucleoside bases other than adenine, guanine, cytosine and uracil at 1' position or their equivalents; such bases can be used at any position, for example, within the catalytic core of an enzymatic nucleic acid molecule and/or in the substrate-binding regions of the nucleic acid molecule.

In one embodiment, the invention features modified enzymatic nucleic acid molecules with phosphate backbone modifications comprising one or more phosphorothioate, phosphorodithioate, methylphosphonate, morpholino, amidate carbamate, carboxymethyl, acetamidate, polyamide, sulfonate, sulfonamide, sulfamate, formacetal, thioformacetal, and/or alkylsilyl, substitutions. For a review of oligonucleotide backbone modifications see Hunziker and Leumann, 1995, *Nucleic Acid Analogues: Synthesis and Properties*, in *Modern Synthetic Methods*, VCH, 331-417, and Mesmaeker *et al.*, 1994, *Novel Backbone Replacements for Oligonucleotides*, in *Carbohydrate Modifications in Antisense Research*, ACS, 24-39. These references are hereby incorporated by reference herein.

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By "abasic" is meant sugar moieties lacking a base or having other chemical groups in place of a base at the 1' position, for example a 3',3'-linked or 5',5'-linked deoxyabasic ribose derivative (for more details see Wincott *et al.*, International PCT publication No. WO 97/26270).

By "unmodified nucleoside" is meant one of the bases adenine, cytosine, guanine, thymine, uracil joined to the 1' carbon of β -D-ribo-furanose.

By "modified nucleoside" is meant any nucleotide base which contains a modification in the chemical structure of an unmodified nucleotide base, sugar and/or phosphate.

In connection with 2'-modified nucleotides as described for the present invention, by "amino" is meant 2'-NH₂ or 2'-O- NH₂, which can be modified or unmodified. Such modified groups are described, for example, in Eckstein *et al.*, U.S. Patent 5,672,695 and Matulic-Adamic *et al.*, WO 98/28317, respectively, which are both incorporated by reference in their entireties.

Various modifications to nucleic acid (e.g., antisense and ribozyme) structure can be made to enhance the utility of these molecules. For example, such modifications can enhance

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shelf-life, half-life *in vitro*, stability, and ease of introduction of such oligonucleotides to the target site, including, *e.g.*, enhancing penetration of cellular membranes and conferring the ability to recognize and bind to targeted cells.

Use of the nucleic acid-based molecules of the invention can lead to better treatment of the disease progression by affording the possibility of combination therapies (e.g., multiple enzymatic nucleic acid molecules targeted to different genes, enzymatic nucleic acid molecules coupled with known small molecule inhibitors, or intermittent treatment with combinations of enzymatic nucleic acid molecules (including different enzymatic nucleic acid molecule motifs) and/or other chemical or biological molecules). The treatment of patients with nucleic acid molecules can also include combinations of different types of nucleic acid molecules. Therapies can be devised which include a mixture of enzymatic nucleic acid molecules (including different enzymatic nucleic acid molecule motifs), allozymes, antisense, dsRNA, aptamers, and/or 2-5A chimera molecules to one or more targets to alleviate symptoms of a disease.

15 Administration of Nucleic Acid Molecules

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Methods for the delivery of nucleic acid molecules are described in Akhtar et al., 1992, Trends Cell Bio., 2, 139; and Delivery Strategies for Antisense Oligonucleotide Therapeutics, ed. Akhtar, 1995 which are both incorporated herein by reference. Sullivan et al., PCT WO 94/02595, further describes the general methods for delivery of enzymatic RNA molecules. These protocols can be utilized for the delivery of virtually any nucleic acid molecule. Nucleic acid molecules can be administered to cells by a variety of methods known to those familiar to the art, including, but not restricted to, encapsulation in liposomes, by iontophoresis, or by incorporation into other vehicles, such as hydrogels, cyclodextrins, biodegradable nanocapsules, and bioadhesive microspheres. Alternatively, the nucleic acid/vehicle combination is locally delivered by direct injection or by use of an infusion pump. Other routes of delivery include, but are not limited to oral (tablet or pill form) and/or intrathecal delivery (Gold, 1997, Neuroscience, 76, 1153-1158). Other approaches include the use of various transport and carrier systems, for example though the use of conjugates and biodegradable polymers. For a comprehensive review on drug delivery strategies including CNS delivery, see Ho et al., 1999, Curr. Opin. Mol. Ther., 1, 336-343 and Jain, Drug Delivery Systems: Technologies and Commercial Opportunities, Decision Resources, 1998 and Groothuis et al., 1997, J. NeuroVirol., 3, 387-400. More detailed descriptions of nucleic acid delivery and administration are provided in Sullivan et al., supra, Draper et al., PCT

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WO93/23569, Beigelman et al., PCT WO99/05094, and Klimuk et al., PCT WO99/04819 all of which have been incorporated by reference herein.

The molecules of the instant invention can be used as pharmaceutical agents. Pharmaceutical agents prevent, inhibit the occurrence, or treat (alleviate a symptom to some extent, preferably all of the symptoms) of a disease state in a patient.

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The polynucleotides of the invention can be administered (e.g., RNA, DNA or protein) and introduced into a patient by any standard means, with or without stabilizers, buffers, and the like, to form a pharmaceutical composition. When it is desired to use a liposome delivery mechanism, standard protocols for formation of liposomes can be followed. The compositions of the present invention can also be formulated and used as tablets, capsules or elixirs for oral administration; suppositories for rectal administration; sterile solutions; suspensions for injectable administration; and the other compositions known in the art.

The present invention also includes pharmaceutically acceptable formulations of the compounds described. These formulations include salts of the above compounds, e.g., acid addition salts, for example, salts of hydrochloric, hydrobromic, acetic acid, and benzene sulfonic acid.

A pharmacological composition or formulation refers to a composition or formulation in a form suitable for administration, e.g., systemic administration, into a cell or patient, preferably a human. Suitable forms, in part, depend upon the use or the route of entry, for example oral, transdermal, or by injection. Such forms should not prevent the composition or formulation from reaching a target cell (i.e., a cell to which the negatively charged polymer is desired to be delivered to). For example, pharmacological compositions injected into the blood stream should be soluble. Other factors are known in the art, and include considerations such as toxicity and forms which prevent the composition or formulation from exerting its effect.

By "systemic administration" is meant *in vivo* systemic absorption or accumulation of drugs in the blood stream followed by distribution throughout the entire body. Administration routes which lead to systemic absorption include, without limitations: intravenous, subcutaneous, intraperitoneal, inhalation, oral, intrapulmonary and intramuscular. Each of these administration routes expose the desired negatively charged polymers, *e.g.*, nucleic acids, to an accessible diseased tissue. The rate of entry of a drug into the circulation has been shown to be a function of molecular weight or size. The use of a liposome or other drug carrier comprising the compounds of the instant invention can

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potentially localize the drug, for example, in certain tissue types, such as the tissues of the reticular endothelial system (RES). A liposome formulation which can facilitate the association of drug with the surface of cells, such as, lymphocytes and macrophages is also useful. This approach can provide enhanced delivery of the drug to target cells by taking advantage of the specificity of macrophage and lymphocyte immune recognition of abnormal cells, such as cells implicated in endometriosis, birth control, endometrial tumors, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), menopausal dysfunction, and endometrial carcinoma.

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By pharmaceutically acceptable formulation is meant, a composition or formulation that allows for the effective distribution of the nucleic acid molecules of the instant invention in the physical location most suitable for their desired activity. Non-limiting examples of agents suitable for formulation with the nucleic acid molecules of the instant invention include: PEG conjugated nucleic acids, phospholipid conjugated nucleic acids, nucleic acids containing lipophilic moieties, phosphorothioates, P-glycoprotein inhibitors (such as Pluronic P85) which can enhance entry of drugs into various tissues, for example the CNS (Jolliet-Riant and Tillement, 1999, Fundam. Clin. Pharmacol., 13, 16-26); biodegradable polymers, such as poly (DL-lactide-coglycolide) microspheres for sustained release delivery after implantation (Emerich, DF et al, 1999, Cell Transplant, 8, 47-58) Alkermes, Inc. Cambridge, MA; and loaded nanoparticles, such as those made of polybutylcyanoacrylate, which can deliver drugs across the blood brain barrier and can alter neuronal uptake mechanisms (Prog Neuropsychopharmacol Biol Psychiatry, 23, 941-949, 1999). Other non-limiting examples of delivery strategies, including CNS delivery of the nucleic acid molecules of the instant invention include material described in Boado et al., 1998, J. Pharm. Sci., 87, 1308-1315; Tyler et al., 1999, FEBS Lett., 421, 280-284; Pardridge et al., 1995, PNAS USA., 92, 5592-5596; Boado, 1995, Adv. Drug Delivery Rev., 15, 73-107; Aldrian-Herrada et al., 1998, Nucleic Acids Res., 26, 4910-4916; and Tyler et al., 1999, PNAS USA., 96, 7053-7058. All these references are hereby incorporated herein by reference.

The invention also features the use of the composition comprising surface-modified liposomes containing poly (ethylene glycol) lipids (PEG-modified, or long-circulating liposomes or stealth liposomes). Nucleic acid molecules of the invention can also comprise covalently attached PEG molecules of various molecular weights. These formulations offer a method for increasing the accumulation of drugs in target tissues. This class of drug carriers resists opsonization and elimination by the mononuclear phagocytic system (MPS or RES), thereby enabling longer blood circulation times and enhanced tissue exposure for the encapsulated drug (Lasic *et al. Chem. Rev.* 1995, 95, 2601-2627; Ishiwata *et al., Chem.*

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Pharm. Bull. 1995, 43, 1005-1011). Such liposomes have been shown to accumulate selectively in tumors, presumably by extravasation and capture in the neovascularized target tissues (Lasic et al., Science 1995, 267, 1275-1276; Oku et al., 1995, Biochim. Biophys. Acta, 1238, 86-90). The long-circulating liposomes enhance the pharmacokinetics and pharmacodynamics of DNA and RNA, particularly compared to conventional cationic liposomes which are known to accumulate in tissues of the MPS (Liu et al., J. Biol. Chem. 1995, 42, 24864-24870; Choi et al., International PCT Publication No. WO 96/10391; Ansell et al., International PCT Publication No. WO 96/10390; Holland et al., International PCT Publication No. WO 96/10392; all of which are incorporated by reference herein). Long-circulating liposomes are also likely to protect drugs from nuclease degradation to a greater extent compared to cationic liposomes, based on their ability to avoid accumulation in metabolically aggressive MPS tissues such as the liver and spleen. All of these references are incorporated by reference herein.

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The present invention also includes compositions prepared for storage or administration which include a pharmaceutically effective amount of the desired compounds in a pharmaceutically acceptable carrier or diluent. Acceptable carriers or diluents for therapeutic use are well known in the pharmaceutical art, and are described, for example, in *Remington's Pharmaceutical Sciences*, Mack Publishing Co. (A.R. Gennaro edit. 1985) hereby incorporated by reference herein. For example, preservatives, stabilizers, dyes and flavoring agents can be provided. These include sodium benzoate, sorbic acid and esters of phydroxybenzoic acid. In addition, antioxidants and suspending agents can be used.

A pharmaceutically effective dose is that dose required to prevent, inhibit the occurrence, or treat (alleviate a symptom to some extent, preferably all of the symptoms) of a disease state. The pharmaceutically effective dose depends on the type of disease, the composition used, the route of administration, the type of mammal being treated, the physical characteristics of the specific mammal under consideration, concurrent medication, and other factors which those skilled in the medical arts will recognize. Generally, an amount between 0.1 mg/kg and 100 mg/kg body weight/day of active ingredients is administered dependent upon potency of the negatively charged polymer.

The nucleic acid molecules of the invention and formulations thereof can be administered orally, topically, parenterally, by inhalation or spray or rectally in dosage unit formulations containing conventional non-toxic pharmaceutically acceptable carriers, adjuvants and vehicles. The term parenteral as used herein includes percutaneous, subcutaneous, intravascular (e.g., intravenous), intramuscular, or intrathecal injection or

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infusion techniques and the like. In addition, there is provided a pharmaceutical formulation comprising a nucleic acid molecule of the invention and a pharmaceutically acceptable carrier. One or more nucleic acid molecules of the invention can be present in association with one or more non-toxic pharmaceutically acceptable carriers and/or diluents and/or adjuvants, and if desired other active ingredients. The pharmaceutical compositions containing nucleic acid molecules of the invention can be in a form suitable for oral use, for example, as tablets, troches, lozenges, aqueous or oily suspensions, dispersible powders or granules, emulsion, hard or soft capsules, or syrups or elixirs.

Compositions intended for oral use can be prepared according to any method known to the art for the manufacture of pharmaceutical compositions and such compositions can contain one or more such sweetening agents, flavoring agents, coloring agents or preservative agents in order to provide pharmaceutically elegant and palatable preparations. Tablets contain the active ingredient in admixture with non-toxic pharmaceutically acceptable excipients that are suitable for the manufacture of tablets. These excipients can be for example, inert diluents, such as calcium carbonate, sodium carbonate, lactose, calcium phosphate or sodium phosphate; granulating and disintegrating agents, for example, corn starch, or alginic acid; binding agents, for example starch, gelatin or acacia, and lubricating agents, for example magnesium stearate, stearic acid or tale. The tablets can be uncoated or they can be coated by known techniques. In some cases such coatings can be prepared by known techniques to delay disintegration and absorption in the gastrointestinal tract and thereby provide a sustained action over a longer period. For example, a time delay material such as glyceryl monosterate or glyceryl distearate can be employed.

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Formulations for oral use can also be presented as hard gelatin capsules wherein the active ingredient is mixed with an inert solid diluent, for example, calcium carbonate, calcium phosphate or kaolin, or as soft gelatin capsules wherein the active ingredient is mixed with water or an oil medium, for example peanut oil, liquid paraffin or olive oil.

Aqueous suspensions contain the active materials in admixture with excipients suitable for the manufacture of aqueous suspensions. Such excipients are suspending agents, for example sodium carboxymethylcellulose, methylcellulose, hydropropyl-methylcellulose, sodium alginate, polyvinylpyrrolidone, gum tragacanth and gum acacia; dispersing or wetting agents can be a naturally-occurring phosphatide, for example, lecithin, or condensation products of an alkylene oxide with fatty acids, for example polyoxyethylene stearate, or condensation products of ethylene oxide with long chain aliphatic alcohols, for example heptadecaethyleneoxycetanol, or condensation products of ethylene oxide with partial esters

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derived from fatty acids and a hexitol such as polyoxyethylene sorbitol monooleate, or condensation products of ethylene oxide with partial esters derived from fatty acids and hexitol anhydrides, for example polyethylene sorbitan monooleate. The aqueous suspensions can also contain one or more preservatives, for example ethyl, or n-propyl p-hydroxybenzoate, one or more coloring agents, one or more flavoring agents, and one or more sweetening agents, such as sucrose or saccharin.

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Oily suspensions can be formulated by suspending the active ingredients in a vegetable oil, for example arachis oil, olive oil, sesame oil or coconut oil, or in a mineral oil such as liquid paraffin. The oily suspensions can contain a thickening agent, for example beeswax, hard paraffin or cetyl alcohol. Sweetening agents and flavoring agents can be added to provide palatable oral preparations. These compositions can be preserved by the addition of an anti-oxidant such as ascorbic acid.

Dispersible powders and granules suitable for preparation of an aqueous suspension by the addition of water provide the active ingredient in admixture with a dispersing or wetting agent, suspending agent and one or more preservatives. Suitable dispersing or wetting agents or suspending agents are exemplified by those already mentioned above. Additional excipients, for example sweetening, flavoring and coloring agents, can also be present.

Pharmaceutical compositions of the invention can also be in the form of oil-in-water emulsions. The oily phase can be a vegetable oil or a mineral oil or mixtures of these. Suitable emulsifying agents can be naturally-occurring gums, for example gum acacia or gum tragacanth, naturally-occurring phosphatides, for example soy bean, lecithin, and esters or partial esters derived from fatty acids and hexitol, anhydrides, for example sorbitan monooleate, and condensation products of the said partial esters with ethylene oxide, for example polyoxyethylene sorbitan monooleate. The emulsions can also contain sweetening and flavoring agents.

Syrups and elixirs can be formulated with sweetening agents, for example glycerol, propylene glycol, sorbitol, glucose or sucrose. Such formulations can also contain a demulcent, a preservative and flavoring and coloring agents. The pharmaceutical compositions can be in the form of a sterile injectable aqueous or oleaginous suspension. This suspension can be formulated according to the known art using those suitable dispersing or wetting agents and suspending agents that have been mentioned above. The sterile injectable preparation can also be a sterile injectable solution or suspension in a non-toxic parentally acceptable diluent or solvent, for example as a solution in 1,3-butanediol. Among the acceptable vehicles and solvents that can be employed are water, Ringer's solution and

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isotonic sodium chloride solution. In addition, sterile, fixed oils are conventionally employed as a solvent or suspending medium. For this purpose any bland fixed oil can be employed including synthetic mono-or diglycerides. In addition, fatty acids such as oleic acid find use in the preparation of injectables.

The nucleic acid molecules of the invention can also be administered in the form of suppositories, e.g., for rectal administration of the drug. These compositions can be prepared by mixing the drug with a suitable non-irritating excipient that is solid at ordinary temperatures but liquid at the rectal temperature and will therefore melt in the rectum to release the drug. Such materials include cocoa butter and polyethylene glycols.

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Nucleic acid molecules of the invention can be administered parenterally in a sterile medium. The drug, depending on the vehicle and concentration used, can either be suspended or dissolved in the vehicle. Advantageously, adjuvants such as local anesthetics, preservatives and buffering agents can be dissolved in the vehicle.

Dosage levels of the order of from about 0.1 mg to about 140 mg per kilogram of body weight per day are useful in the treatment of the above-indicated conditions (about 0.5 mg to about 7 g per patient per day). The amount of active ingredient that can be combined with the carrier materials to produce a single dosage form varies depending upon the host treated and the particular mode of administration. Dosage unit forms generally contain between from about 1 mg to about 500 mg of an active ingredient.

It is understood that the specific dose level for any particular patient depends upon a variety of factors including the activity of the specific compound employed, the age, body weight, general health, sex, diet, time of administration, route of administration, and rate of excretion, drug combination and the severity of the particular disease undergoing therapy.

For administration to non-human animals, the composition can also be added to the animal feed or drinking water. It can be convenient to formulate the animal feed and drinking water compositions so that the animal takes in a therapeutically appropriate quantity of the composition along with its diet. It can also be convenient to present the composition as a premix for addition to the feed or drinking water.

The nucleic acid molecules of the present invention can also be administered to a patient in combination with other therapeutic compounds to increase the overall therapeutic effect. The use of multiple compounds to treat an indication can increase the beneficial effects while reducing the presence of side effects.

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Alternatively, certain of the nucleic acid molecules of the instant invention can be expressed within cells from eukaryotic promoters (e.g., Izant and Weintraub, 1985, Science, 229, 345; McGarry and Lindquist, 1986, Proc. Natl. Acad. Sci., USA 83, 399; Scanlon et al., 1991, Proc. Natl. Acad. Sci. USA, 88, 10591-5; Kashani-Sabet et al., 1992, Antisense Res. Dev., 2, 3-15; Dropulic et al., 1992, J. Virol., 66, 1432-41; Weerasinghe et al., 1991, J. Virol., 65, 5531-4; Ojwang et al., 1992, Proc. Natl. Acad. Sci. USA, 89, 10802-6; Chen et al., 1992, Nucleic Acids Res., 20, 4581-9; Sarver et al., 1990 Science, 247, 1222-1225; Thompson et al., 1995, Nucleic Acids Res., 23, 2259; Good et al., 1997, Gene Therapy, 4, 45; all of these references are hereby incorporated in their totalities by reference herein). Those skilled in the art realize that any nucleic acid can be expressed in eukaryotic cells from the appropriate DNA/RNA vector. The activity of such nucleic acids can be augmented by their release from the primary transcript by a enzymatic nucleic acid (Draper et al., PCT WO 93/23569, and Sullivan et al., PCT WO 94/02595; Ohkawa et al., 1992, Nucleic Acids Symp. Ser., 27, 15-6; Taira et al., 1991, Nucleic Acids Res., 19, 5125-30; Ventura et al., 1993, Nucleic Acids Res., 21, 3249-55; Chowrira et al., 1994, J. Biol. Chem., 269, 25856; all of these references are hereby incorporated in their totalities by reference herein). Gene therapy approaches specific to the CNS are described by Blesch et al., 2000, Drug News Perspect., 13, 269-280; Peterson et al., 2000, Cent. Nerv. Syst. Dis., 485-508; Peel and Klein, 2000, J. Neurosci, Methods, 98, 95-104; Hagihara et al., 2000, Gene Ther., 7, 759-763; and Herrlinger et al., 2000, Methods Mol. Med., 35, 287-312. AAV-mediated delivery of nucleic acid to cells of the nervous system is further described by Kaplitt et al., US 6,180,613.

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In another aspect of the invention, RNA molecules of the present invention are preferably expressed from transcription units (see for example Couture *et al.*, 1996, *TIG.*, 12, 510) inserted into DNA or RNA vectors. The recombinant vectors are preferably DNA plasmids or viral vectors. Ribozyme expressing viral vectors can be constructed based on, but not limited to, adeno-associated virus, retrovirus, adenovirus, or alphavirus. Preferably, the recombinant vectors capable of expressing the nucleic acid molecules are delivered as described above, and persist in target cells. Alternatively, viral vectors can be used that provide for transient expression of nucleic acid molecules. Such vectors can be repeatedly administered as necessary. Once expressed, the nucleic acid molecule binds to the target mRNA. Delivery of nucleic acid molecule expressing vectors can be systemic, such as by intravenous or intra-muscular administration, by administration to target cells ex-planted from the patient followed by reintroduction into the patient, or by any other means that would allow for introduction into the desired target cell (for a review see Couture *et al.*, 1996, *TIG.*, 12, 510).

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In one aspect the invention features an expression vector comprising a nucleic acid sequence encoding at least one of the nucleic acid molecules of the instant invention. The nucleic acid sequence encoding the nucleic acid molecule of the instant invention is operably linked in a manner which allows expression of that nucleic acid molecule.

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In another aspect the invention features an expression vector comprising: a) a transcription initiation region (e.g., eukaryotic pol I, II or III initiation region); b) a transcription termination region (e.g., eukaryotic pol I, II or III termination region); c) a nucleic acid sequence encoding at least one of the nucleic acid catalyst of the instant invention; and wherein said sequence is operably linked to said initiation region and said termination region, in a manner which allows expression and/or delivery of said nucleic acid molecule. The vector can optionally include an open reading frame (ORF) for a protein operably linked on the 5' side or the 3'-side of the sequence encoding the nucleic acid catalyst of the invention; and/or an intron (intervening sequences).

Transcription of the nucleic acid molecule sequences are driven from a promoter for 15 eukaryotic RNA polymerase I (pol I), RNA polymerase II (pol II), or RNA polymerase III (pol III). Transcripts from pol II or pol III promoters are expressed at high levels in all cells; the levels of a given pol II promoter in a given cell type depends on the nature of the gene regulatory sequences (enhancers, silencers, etc.) present nearby. polymerase promoters are also used, providing that the prokaryotic RNA polymerase enzyme 20 is expressed in the appropriate cells (Elroy-Stein and Moss, 1990, Proc. Natl. Acad. Sci. U S A, 87, 6743-7; Gao and Huang 1993, Nucleic Acids Res., 21, 2867-72; Lieber et al., 1993, Methods Enzymol., 217, 47-66; Zhou et al., 1990, Mol. Cell. Biol., 10, 4529-37). All of these references are incorporated by reference herein. Several investigators have demonstrated that nucleic acid molecules, such as ribozymes expressed from such promoters can function in mammalian cells (e.g. Kashani-Sabet et al., 1992, Antisense Res. Dev., 2, 3-25 15; Ojwang et al., 1992, Proc. Natl. Acad. Sci. U S A, 89, 10802-6; Chen et al., 1992, Nucleic Acids Res., 20, 4581-9; Yu et al., 1993, Proc. Natl. Acad. Sci. U S A, 90, 6340-4; L'Huillier et al., 1992, EMBO J., 11, 4411-8; Lisziewicz et al., 1993, Proc. Natl. Acad. Sci. U. S. A, 90, 8000-4; Thompson et al., 1995, Nucleic Acids Res., 23, 2259; Sullenger & Cech, 30 1993, Science, 262, 1566). More specifically, transcription units such as the ones derived from genes encoding U6 small nuclear (snRNA), transfer RNA (tRNA) and adenovirus VA RNA are useful in generating high concentrations of desired RNA molecules such as ribozymes in cells (Thompson et al., supra; Couture and Stinchcomb, 1996, supra; Noonberg et al., 1994, Nucleic Acid Res., 22, 2830; Noonberg et al., US Patent No. 5,624,803; Good et 35 al., 1997, Gene Ther., 4, 45; Beigelman et al., International PCT Publication No. WO

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96/18736; all of these publications are incorporated by reference herein. The above ribozyme transcription units can be incorporated into a variety of vectors for introduction into mammalian cells, including but not restricted to, plasmid DNA vectors, viral DNA vectors (such as adenovirus or adeno-associated virus vectors), or viral RNA vectors (such as retroviral or alphavirus vectors) (for a review see Couture and Stinchcomb, 1996, supra).

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In another aspect the invention features an expression vector comprising nucleic acid sequence encoding at least one of the nucleic acid molecules of the invention, in a manner which allows expression of that nucleic acid molecule. The expression vector comprises in one embodiment; a) a transcription initiation region; b) a transcription termination region; c) a nucleic acid sequence encoding at least one said nucleic acid molecule; and wherein said sequence is operably linked to said initiation region and said termination region, in a manner which allows expression and/or delivery of said nucleic acid molecule.

In another embodiment the expression vector comprises: a) a transcription initiation region; b) a transcription termination region; c) an open reading frame; d) a nucleic acid sequence encoding at least one said nucleic acid molecule, wherein said sequence is operably linked to the 3'-end of said open reading frame; and wherein said sequence is operably linked to said initiation region, said open reading frame and said termination region, in a manner which allows expression and/or delivery of said nucleic acid molecule. In yet another embodiment the expression vector comprises: a) a transcription initiation region; b) a transcription termination region; c) an intron; d) a nucleic acid sequence encoding at least one said nucleic acid molecule; and wherein said sequence is operably linked to said initiation region, said intron and said termination region, in a manner which allows expression and/or delivery of said nucleic acid molecule.

In another embodiment, the expression vector comprises: a) a transcription initiation region; b) a transcription termination region; c) an intron; d) an open reading frame; e) a nucleic acid sequence encoding at least one said nucleic acid molecule, wherein said sequence is operably linked to the 3'-end of said open reading frame; and wherein said sequence is operably linked to said initiation region, said intron, said open reading frame and said termination region, in a manner which allows expression and/or delivery of said nucleic acid molecule.

Flt-1 (VEGFR1), KDR (VEGFR2) and/or flk-1 are attractive nucleic acid-based therapeutic targets by several criteria. The interaction between VEGF and VEGF-R is well-established. Efficacy can be tested in well-defined and predictive animal models. Finally, the disease conditions are serious and current therapies are inadequate. Whereas protein-based

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therapies are designed to affect VEGF activity, nucleic acid-based therapy based on the molecules and methods described herein provides a direct and elegant approach to directly modulate flt-1, KDR and/or flk-1 expression.

Because VEGFR1 and VEGFR2 mRNAs are highly homologous in certain regions, some nucleic acid target sites are also homologous. In this case, a single nucleic acid molecule of the invention can target both VEGFR1 and VEGFR2 mRNAs. At partially homologous sites, a single nucleic acid molecule can sometimes be designed to accommodate a site on both mRNAs by including G/U base pairing. For example, if there is a G present in a enzymatic nucleic acid target site in VEGFR1 mRNA at the same position there is an A in the VEGFR2 enzymatic nucleic acid target site, the enzymatic nucleic acid can be synthesized with a U at the complementary position and it will bind both to sites. The advantage of one enzymatic nucleic acid that targets both VEGFR1 and VEGFR2 mRNAs is clear, especially in cases where both VEGF receptors may contribute to the progression of angiogenesis in the disease state.

15 <u>Examples</u>

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The following are non-limiting examples showing the selection, isolation, synthesis and activity of exemplary nucleic acids of the instant invention.

The following examples demonstrate the selection and design of antisense, aptamer, dsRNA, allozyme, hammerhead, DNAzyme, NCH, Amberzyme, Zinzyme, or G-Cleaver ribozyme molecules and binding/cleavage sites within VEGF, VEGFR1 and/or VEGFR2 RNA.

Example 1: Enzymatic nucleic acid-mediated inhibition of angiogenesis in vivo

The study described below was performed to assess the anti-angiogenic activity of hammerhead ribozymes targeted against flt-1 4229 site (SED ID NO: 5977) in the rat cornea model of VEGF induced angiogenesis (see above). These ribozymes have either active or inactive catalytic core and either bind and cleave or just bind to VEGF-R mRNA of the flt-1 subtype. The active ribozymes, that are able to bind and cleave the target RNA, have been shown to inhibit (125I-labeled) VEGF binding in cultured endothelial cells and produce a dose-dependent decrease in VEGF induced endothelial cell proliferation in these cells. The catalytically inactive forms of these ribozymes, which can only bind to the RNA but cannot catalyze RNA cleavage, failed to inhibit VEGF binding and failed to decrease VEGF induced endothelial cell proliferation. The ribozymes and VEGF were co-delivered using the filter

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disk method: Nitrocellulose filter disks (Millipore®) of 0.057 diameter were immersed in appropriate solutions and were surgically implanted in rat cornea as described by Pandey et al., supra. This delivery method has been shown to deliver rhodamine-labeled free ribozyme to scleral cells and, in all likelihood cells of the pericorneal vascular plexus. Since the active ribozymes show cell culture efficacy and can be delivered to the target site using the disk method, it is essential that these ribozymes be assessed for in vivo anti-angiogenic activity.

The stimulus for angiogenesis in this study was the treatment of the filter disk with 30 µM VEGF which is implanted within the cornea's stroma. This dose yields reproducible neovascularization stemming from the pericorneal vascular plexus growing toward the disk in a dose-response study 5 days following implant. Filter disks treated only with the vehicle for VEGF show no angiogenic response. The ribozymes were co-adminstered with VEGF on a disk in two different ribozyme concentrations. One concern with the simultaneous administration is that the ribozymes will not be able to inhibit angiogenesis since VEGF receptors can be stimulated. However, we have observed that in low VEGF doses, the neovascular response reverts to normal suggesting that the VEGF stimulus is essential for maintaining the angiogenic response. Blocking the production of VEGF receptors using simultaneous administration of anti-VEGF-R mRNA ribozymes could attenuate the normal neovascularization induced by the filter disk treated with VEGF.

Materials and Methods:

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20 1. Stock hammerhead ribozyme solutions:

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a. flt-1 4229 (786 µM)- Active
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b. flt-1 4229 (736 μM)— Inactive

2. Experimental solutions/groups:

Group 1 Solution 1 Control VEGF solution: 30 μM in 82mM Tris base

25 Group 2 Solution 2 flt-1 4229 (1 μg/μL) in 30 μM VEGF/82 mM Tris base

Group 3 Solution 3 flt-1 4229 (10 μg/μL) in 30 μM VEGF/82 mM Tris base

Group 4 Solution 4 No VEGF, flt-1 4229 (10 μg/μL) in 82 mM Tris base

Group 5 Solution 5 No VEGF, No ribozyme in 82 mM Tris base

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10 eyes per group, 5 animals (Since they have similar molecular weights, the molar concentrations should be essentially similar).

Each solution (VEGF and RIBOZYMES) were prepared as a 2X solution for 1:1 mixing for final concentrations above, with the exception of solution 1 in which VEGF was 2X and diluted with ribozyme diluent (sterile water).

3. <u>VEGF Solutions</u>

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The 2X VEGF solution (60 µM) was prepared from a stock of 0.82 µg/µL in 50 mM Tris base. 200 µL of VEGF stock was concentrated by speed vac to a final volume of 60.8 µL, for a final concentration of 2.7 µg/µL or 60 µM. Six 10 µL aliquots was prepared for daily mixing. 2X solutions for VEGF and Ribozyme was stored at 4°C until the day of the surgery. Solutions were mixed for each day of surgery. Original 2X solutions was prepared on the day before the first day of the surgery.

4. <u>Surgical Solutions:</u>

Anesthesia:

stock ketamine hydrochloride 100 mg/mL

stock xylazine hydrochloride 20 mg/mL

stock acepromazine 10 mg/mL

<u>Final anesthesia solution</u>: 50 mg/mL ketamine, 10 mg/mL xylazine, and 0.5 mg/mL acepromazine

20 5% povidone iodine for opthalmic surgical wash

2% lidocaine (sterile) for opthalmic administration (2 drops per eye)

sterile 0.9% NaCl for opthalmic irrigation

5. Surgical Methods:

Standard surgical procedure as described in Pandey et al., supra. Filter disks were incubated in 1 μ L of each solution for approximately 30 minutes prior to implantation.

6. Experimental Protocol:

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The animal cornea were treated with the treatment groups as described above. Animals were allowed to recover for 5 days after treatment with daily observation (scoring 0 - 3). On the fifth day animals were euthanized and digital images of each eye was obtained for quantitation using Image Pro Plus. Quantitated neovascular surface area were analyzed by ANOVA followed by two post-hoc tests including Dunnets and Tukey-Kramer tests for significance at the 95% confidence level. Dunnets provide information on the significance between the differences within the means of treatments vs. controls while Tukey-Kramer provide information on the significance of differences within the means of each group.

The flt-1 4229 (SEQ ID NO: 5977) active hammerhead ribozyme at both concentrations was effective at inhibiting angiogenesis while the inactive ribozyme did not show any significant reduction in angiogenesis. A statistically significant reduction in neovascular surface area was observed only with active ribozymes. This result clearly shows that the ribozymes are capable of significantly inhibiting angiogenesis *in vivo*. Specifically, given ribozyme mechanism of action, the observed inhibition is by the binding and cleavage of target RNA by ribozymes.

Example 2: Bioactivity of anti-angiogenesis ribozymes targeting flt-1 and kdr RNA

MATERIALS AND METHODS

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Ribozymes: Hammerhead ribozymes and controls designed to have attenuated activity (attenuated controls) were synthesized and purified as previously described above. The attenuated ribozyme controls maintain the binding arm sequence of the parent ribozyme and thus are still capable of binding to the mRNA target. However, they have two nucleotide changes in the core sequence that substantially reduce their ability to carry out the cleavage reaction. Ribozymes were designed to target *Flt-1* or *KDR* mRNA sites conserved in human, mouse, and rat. In general, ribozymes with binding arms of seven nucleotides were designed and tested. If, however, only six nucleotides surrounding the cleavage site were conserved in all three species, six nucleotide binding arms were used. Data are presented herein for 2'-NH₂ uridine modified ribozymes in cell proliferation studies and for 2'-C-allyl uridine modified ribozymes in RNAse protection, *in vitro* cleavage and corneal studies.

In vitro ribozyme cleavage assays: *In vitro* RNA cleavage rates on a 15 nucleotide synthetic RNA substrate were measured as previously described above.

Cell culture: Human dermal microvascular endothelial cells (HMVEC-d, Clonetics Corp.) were maintained at 37°C in flasks or plates coated with 1.5% porcine skin gelatin (300

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bloom, Sigma) in Growth medium (Clonetics Corp.) supplemented with 10-20% fetal bovine serum (FBS, Hyclone). Cells were grown to confluency and used up to the seventh passage. Stimulation medium consisted of 50% Sigma 99 media and 50% RPMI 1640 with L-glutamine and additional supplementation with 10 μ g/mL Insulin-Transferrin-Selenium (Gibco BRL) and 10% FBS. Cell growth was stimulated by incubation in Stimulation medium supplemented with 20 ng/mL of either VEGF₁₆₅ or bFGF. VEGF₁₆₅ (165 amino acids) was selected for cell culture and animal studies because it is the predominant form of the four native forms of VEGF generated by alternative mRNA splicing. Cell culture assays were carried out in triplicate.

10 Ribozyme and ribozyme/LIPOFECTAMINETM formulations:

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Cell culture: Ribozymes or attenuated controls (50-200 nM) were formulated for cell culture studies and used immediately. Formulations were carried out with LIPOFECTAMINETM (Gibco BRL) at a 3:1 lipid to phosphate charge ratio in serum-free medium (OPTI-MEMTM, Gibco BRL) by mixing for 20 minutes at room temperature. For example, a 3:1 lipid to phosphate charge ratio was established by complexing 200 nM ribozyme with 10.8 μg/μL LIPOFECTAMINETM (13.5 μM DOSPA).

In vivo: For corneal studies, lyophilized ribozyme or attenuated controls were resuspended in sterile water at a final stock concentration of 170 μ g/ μ L (highest dose). Lower doses (1.7-50 μ g/ μ L) were prepared by serial dilution in sterile water.

Proliferation assay: HMVEC-d were seeded (5 x 10³ cells/well) in 48-well plates (Costar) and incubated 24-30 hours in Growth medium at 37°C. After removal of the Growth medium, cells were treated with 50-200 nM LIPOFECTAMINETM complexes of ribozyme or attenuated controls for 2 hours in OPTI-MEMTM. The ribozyme/control-containing medium was removed and the cells were washed extensively in 1X PBS. The medium was then replaced with Stimulation medium or Stimulation medium supplemented with 20 ng/mL VEGF₁₆₅ or bFGF. After 48 hours, the cell number was determined using a CoulterTM cell counter. Data are presented as cell number per well following 48 hours of VEGF stimulation.

RNAse protection assay: HMVEC-d were seeded (2 x 10⁵ cells/well) in 6-well plates (Costar) and allowed to grow 32-36 hours in Growth medium at 37°C. Cells were treated with LIPOFECTAMINETM complexes containing 200 nM ribozyme or attenuated control for 2 h as described under "Proliferation Assay" and then incubated in Growth medium containing 20 ng/mL VEGF₁₆₅ for 24 hours. Cells were harvested and an RNAse protection assay was carried out using the Ambion Direct Protect kit and protocol with the exception that 50 mM

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EDTA was added to the lysis buffer to eliminate the possibility of ribozyme cleavage during sample preparation. Antisense RNA probes targeting portions of Flt-1 and KDR were prepared by transcription in the presence of [32 P]-UTP. Samples were analyzed on polyacrylamide gels and the level of protected RNA fragments was quantified using a Molecular Dynamics PhosphorImager. The levels of Flt-1 and KDR were normalized to the level of cyclophilin (human cyclophilin probe template, Ambion) in each sample. The coefficient of variation for cyclophilin levels was 11% [265940 cpm \pm 29386 (SD)] for all conditions tested here (*i.e.* in the presence of either active ribozymes or attenuated controls). Thus, cyclophilin is useful as an internal standard in these studies.

10 Rat corneal pocket assay of VEGF-induced angiogenesis:

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Animal guidelines and anesthesia. Animal housing and experimentation adhered to standards outlined in the 1996 Guide for the Care and Use of Laboratory Animals (National Research Council). Male Sprague Dawley rats (250-300 g) were anesthetized with ketamine (50 mg/kg), xylazine (10 mg/kg), and acepromazine (0.5 mg/kg) administered intramuscularly (im). The level of anesthesia was monitored every 2-3 min by applying hind limb paw pressure and examining for limb withdrawal. Atropine (0.4 mg/kg, im) was also administered to prevent potential corneal reflex-induced bradycardia.

Preparation of VEGF soaked disk. For corneal implantation, 0.57 mm diameter nitrocellulose disks, prepared from 0.45 μ m pore diameter nitrocellulose filter membranes (Millipore Corporation), were soaked for 30 min in 1 μ L of 30 μ M VEGF₁₆₅ in 82 mM Tris HCl (pH 6.9) in covered petri dishes on ice.

Corneal surgery. The rat corneal model used in this study was a modified from Koch et al. Supra and Pandey et al., supra. Briefly, corneas were irrigated with 0.5% povidone iodine solution followed by normal saline and two drops of 2% lidocaine. Under a dissecting microscope (Leica MZ-6), a stromal pocket was created and a presoaked filter disk (see above) was inserted into the pocket such that its edge was 1 mm from the corneal limbus.

Intraconjunctival injection of test solutions. Immediately after disk insertion, the tip of a 40-50 µm OD injector (constructed in our laboratory) was inserted within the conjunctival tissue 1 mm away from the edge of the corneal limbus that was directly adjacent to the VEGF-soaked filter disk. Six hundred nanoliters of test solution (ribozyme, attenuated control or sterile water vehicle) were dispensed at a rate of 1.2 µL/min using a syringe pump (Kd Scientific). The injector was then removed, serially rinsed in 70% ethanol and sterile water and immersed in sterile water between each injection. Once the test solution was injected.

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closure of the eyelid was maintained using microaneurism clips until the animal began to recover gross motor activity. Following treatment, animals were warmed on a heating pad at 37°C.

Animal treatment groups/experimental protocol. Ribozymes targeting Flt-1 site 4229 (SEQ ID NO: 5977) and KDR mRNA site 726 (SEQ ID NO: 5978) were tested in the corneal model along with their attenuated controls. Five treatment groups were assigned to examine the effects of five doses of each test substance over a dose range of 1-100 µg on VEGF-stimulated angiogenesis. Negative (30 µM VEGF soaked filter disk and intraconjunctival injection of 600 nL sterile water) and no stimulus (Tris-soaked filter disk and intraconjunctival injection of sterile water) control groups were also included. Each group consisted of five animals (10 eyes) receiving the same treatment.

Quantitation of angiogenic response. Five days after disk implantation, animals were euthanized following im administration of 0.4 mg/kg atropine and corneas were digitally imaged. The neovascular surface area (NSA, expressed in pixels) was measured postmortem from blood-filled corneal vessels using computerized morphometry (Image Pro Plus, Media Cybernetics, v2.0). The individual mean NSA was determined in triplicate from three regions of identical size in the area of maximal neovascularization between the filter disk and the limbus. The number of pixels corresponding to the blood-filled corneal vessels in these regions was summated to produce an index of NSA. A group mean NSA was then calculated. Data from each treatment group were normalized to VEGF/ribozyme vehicle-treated control NSA and finally expressed as percent inhibition of VEGF-induced angiogenesis.

Statistics. After determining the normality of treatment group means, group mean percent inhibition of VEGF-induced angiogenesis was subjected to a one-way analysis of variance. This was followed by two post-hoc tests for significance including Dunnett's (comparison to VEGF control) and Tukey-Kramer (all other group mean comparisons) at alpha = 0.05. Statistical analyses were performed using JMP v.3.1.6 (SAS Institute).

RESULTS

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Ribozyme-mediated reduction of VEGF-induced cell proliferation: Ribozyme cleavage of *Flt-1* or *KDR* mRNA should result in a decrease in the density of cell surface VEGF receptors. This decrease should limit VEGF binding and consequently interfere with the mitogenic signaling induced by VEGF. To determine if cell proliferation was impacted by anti-*Flt-1* and/or anti-*KDR* ribozyme treatment, proliferation assays using cultured human microvascular cells were carried out. Ribozymes included in the proliferation assays were

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initially chosen by their ability to decrease the level of VEGF binding to treated cells. In these initial studies, ribozymes targeting 20 sites in the coding region of each mRNA were screened. The most effective ribozymes against two sites in each target, *Flt-1* sites 1358 and 4229 and *KDR* sites 726 and 3950, were included in the proliferation assays reported here. In addition, attenuated analogs of each ribozyme were used as controls. These attenuated controls are still capable of binding to the mRNA target since the binding arm sequence is maintained. However, these controls have two nucleotide changes in the core sequence that substantially reduce their ability to carry out the cleavage reaction.

The active ribozymes tested decreased the relative proliferation of HMVEC-d after VEGF stimulation, an effect that increased with ribozyme concentration. This concentration dependency was not observed following treatment with the attenuated controls designed for these sites. In fact, little or no change in cell growth was noted following treatment with the attenuated controls, even though these controls can still bind to the specific target sequences. At 200 nM, there was a distinct "window" between the anti-proliferative effects of each ribozyme and its attenuated control; a trend also observed at lower doses. This window of inhibition of proliferation (56-77% based on total cells/well) reflects the contribution of ribozyme-mediated activity. In comparison, no effect of anti-Flt-1 or anti-KDR ribozymes was noted on bFGF-stimulated cell proliferation. Moreover, an irrelevant, but active, ribozyme whose binding sequence is not found in either Flt-1 or KDR mRNA had no effect in this assay. These data are consistent with the basic ribozyme mechanism in which binding and cleavage are necessary components. Although the relative surface distribution of Flt-1 and KDR receptors in this cell type is not known, the antiproliferative effects of these ribozymes indicate that, at least in cell culture, both receptors are functionally coupled to proliferation.

Specific reduction of *Flt-1* or *KDR* mRNA by ribozyme treatment: To confirm that anti-*Flt-1* and anti-*KDR* ribozymes reduce their respective mRNA targets, cellular levels of *Flt-1* or *KDR* were quantified using an RNAse protection assay with specific *Flt-1* or *KDR* probes. For each target, one ribozyme/attenuated control pair was chosen for continued study. Exposure of HMVEC-d to active ribozyme targeting *Flt-1* site 4229 decreased *Flt-1* mRNA, but not *KDR* mRNA. Likewise, treatment with the active ribozyme targeting *KDR* site 726 decreased *KDR*, but not *Flt-1* mRNA. Both ribozymes decreased the level of their respective target RNA by greater than 50%. The degree of reduction associated with the corresponding attenuated controls was not greater than 13%.

In vitro activity of anti-Flt and anti-KDR ribozymes.

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To confirm further the necessity of an active ribozyme core, *in vitro* cleavage activities were determined for the Flt-1 site 4229 ribozyme and the KDR site 726 ribozyme as well as their paired attenuated controls. The first order rate constants calculated from the time-course of short substrate cleavage for the anti-Flt-1 ribozyme and its attenuated control were $0.081 \pm 0.0007 \text{ min}^{-1}$ and $0.001 \pm 6 \times 10^{-5} \text{ min}^{-1}$, respectively. For the anti-KDR ribozyme and its paired control, the first order rate constants were $0.434 \pm 0.024 \text{ min}^{-1}$ and $0.002 \pm 1 \times 10^{-4} \text{ min}^{-1}$, respectively. Although the attenuated controls retain a very slight level of cleavage activity under these optimized conditions, the decrease in *in vitro* cleavage activity between each active ribozyme and its paired attenuated control is about two orders of magnitude. Thus, an active core is essential for cleavage activity *in vitro* and is also necessary for ribozyme activity in cell culture.

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Ribozyme-mediated reduction of VEGF-induced angiogenesis in vivo. To assess whether ribozymes targeting VEGF receptor mRNA could impact the complex process of angiogenesis, prototypic anti-Flt-1 and KDR ribozymes that were identified in cell culture studies were screened in a rat corneal pocket assay of VEGF-induced angiogenesis. In this assay, corneas implanted with VEGF-containing filter disks exhibited a robust neovascular response in the corneal region between the disk and the corneal limbus (from which the new vessels emerge). Disks containing a vehicle solution elicited no angiogenic response. In separate studies, intraconjunctival injections of sterile water vehicle did not affect the magnitude of the VEGF-induced angiogenic response. In addition, ribozyme injections alone did not induce angiogenesis.

The dose-related effects of anti-Flt-1 or KDR ribozymes on the VEGF-induced angiogenic response were then examined. The antiangiogenic effect of the anti-Flt-1 (site 4229) and KDR (site 726) ribozymes and their attenuated controls over a dose range from 1 to 100 µg, respectively was determined. For both ribozymes, the maximal antiangiogenic response (48 and 36% for anti-Flt-1 and KDR ribozymes, respectively) was observed at a dose of 10 µg.

The anti-Flt-1 ribozyme produced a significantly greater antiangiogenic response than its attenuated control at 3 and 10 μ g (p<0.05). Its attenuated control exhibited a small but significant antiangiogenic response at doses above 10 μ g compared to vehicle treated VEGF controls (p<0.05). At its maximum, this response was not significantly greater than that observed with the lowest dose of active anti-Flt-1 ribozyme. The anti-KDR ribozyme significantly inhibited angiogenesis from 3 to 30 μ g (p<0.05). The anti-KDR attenuated control had no significant effect at any dose tested.

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Example 3. In vivo inhibition of tumor growth and metastases by VEGF-R ribozymes.

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A. Lewis Lung Carcinoma Mouse Model: Ribozymes were chemically synthesized as described above. The sequence of ANGIOZYMETM bound to its target RNA is shown in Figure 1.

The tumors in this study were derived from a cell line (LLC-HM) which gives rise to reproducible numbers of spontaneous lung metastases when propagated in vivo. The LLC-HM line was obtained from Dr. Michael O'Reilly, Harvard University. neovascularization in Lewis lung carcinoma has been shown to be VEGF-dependent. Tumors from mice bearing LLC-HM (selected for the highly metastatic phenotype by serial propagation) were harvested 20 days post-inoculation. A tumor brei suspension was prepared from these tumors according to standard protocols. On day 0 of the study, 0.5 x 10⁶ viable LLC-HM tumor cells were injected subcutaneously (sc) into the dorsum or flank of previously untreated mice (100 µL injectate). Tumors were allowed to grow for a period of 3 days prior to initiating continuous intravenous administration of saline or 30 mg/kg/d ANGIOZYMETM via Alzet mini-pumps. One set of animals was dosed from days 3 to 17, inclusive. Tumor length and width measurements and volumes were calculated according to the formula: Volume = $0.5(length)(width)^2$. At post-inoculation day 25, animals were euthanized and lungs harvested. The number of lung macrometastatic nodules was counted. It should be noted that metastatic foci were quantified 8 days after the cessation of dosing. Ribozyme solutions were prepared to deliver to another set of animals 100, 10, 3, or 1 mg/kg/day of ANGIOZYMETM via Alzet mini-pumps. A total of 10 animals per dose or saline control group were surgically implanted on the left flank with osmotic mini-pumps prefilled with the respective test solution three days following tumor inoculation. Pumps were attached to indwelling jugular vein catheters.

Figure 2 shows the antitumor effects of ANGIOZYME[™]. There is a statistically significant inhibition (p < 0.05) of primary LLC-HM tumor growth in tumors grown in the flank regions compared to saline control. ANGIOZYME[™] significantly reduced (p < 0.05) the number of lung metastatic foci in animals inoculated either in the flank regions. Figure 3 illustrates the dose-dependent anti-metastatic effect of ANGIOZYME[™] compared to saline control.

B. Mouse Colorectal Cancer Model. KM12L4a-16 is a human colorectal cancer cell line. On day 0 of the study, 0.5×10^6 KM12L4a-16 cells were implanted into the spleen of nude mice. Three days after tumor inoculation, Alzet minipumps were implanted and continuous subcutaneous delivery of either saline or 12, 36 or 100 mg/kg/ day of

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ANGIOZYMETM was initiated. On day 5, the spleens containing the primary tumors were removed. On day 18, the Alzet minipumps were replaced with fresh pumps so that delivery of saline or ANGIOZYMETM was continuous over a 28 day period from day 3 to day 32. Animals were euthanized on day 41 and the liver tumor burden was evaluated.

Following treatment with 100 mg/kg/day of ANGIOZYMETM, there was a significant reduction in the incidence and median number of liver metastasis (**Figure 4**). In saline-treated animals, the median number of metastases was 101. However, at the high dose of ANGIOZYMETM (100 mg/kg/day), the median number of metastases was zero.

Example 4: Effect of ANGIOZYMETM alone or in combination with chemotherapeutic agents in the mouse Lewis Lung Carcinoma Model.

Methods

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Tumor inoculations. Male C57/BL6 mice, age 6 to 8 weeks, were inoculated subcutaneously in the flank with 5 x 10^5 LLC-HM cells from brei preparations made from tumors grown in mice.

Ribozymes and controls. RPI.4610, also known as ANGIOZYME™ (SEQ ID NO: 5977), is an anti-Flt-1 ribozyme that targets site 4229 in the human Flt-1 receptor mRNA (EMBL accession no. X51602). The controls tested include RPI.13141, an attenuated version of RPI.4610 in which four nucleotides in the catalytic core are changed so that the cleavage activity is dramatically decreased. RPI.13141, however, maintains the base composition and binding arms of RPI.4610 and so is still capable of binding to the target site. The second control (RPI.13030) also has changes to the catalytic core (three) to inhibit cleavage activity, but in addition the sequence of the binding arms has been scrambled so that it can no longer bind to the target sequence. One nucleotide in the arm of RPI.13030 is also changed to maintain the same base composition as RPI.4610.

Ribozyme administrations. Ribozymes and controls were resuspended in normal saline. Administration was initiated seven days following tumor inoculation. Animals either received a daily subcutaneous injection (30 mg/kg test substance) from day 7 to day 20 or were instrumented with an Alzet osmotic minipump (12 μL/day flow rate) containing a solution of ribozyme or control. Subcutaneous infusion pumps delivered the test substances (30 mg/kg/day) from day 7 to 20 (14-day pumps, 420 mg/kg total test substance) or days 7-34 (28-day pumps, 840 mg/kg total test substance). Where indicated, chemotherapeutic agents were given in combination with ribozyme treatment. Cyclophosphamide was given by intraperitoneal administration on days 7, 9 and 11 (125 mg/kg). Gemcitabine was given by

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intraperitoneal administration on days 8, 11 and 14 (125 mg/kg). Untreated, uninstrumented animals were used as comparison. Five animals were included in each group.

Results

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The antiangiogenic ribozyme, ANGIOZYMETM, was tested in a model of Lewis lung carcinoma alone and in combination with two chemotherapeutic agents. Previously (see above), 30 mg/kg/day ANGIOZYMETM alone was determined to inhibit both primary tumor growth and lung metastases in a highly metastatic variant of Lewis lung (continuous 14-day iv delivery*via* Alzet minipump, manuscript in preparation).

In this study, 30 mg/kg/day ANGIOZYMETM delivered either as a daily subcutaneous bolus injection or as a continuous infusion from an Alzet minipump resulted in a delay in tumor growth. On average, tumor growth to 500 mm³ was delayed by ~7 days in animals being treated with ANGIOZYMETM compared to an untreated group. Growth of tumors in animals being treated with either of two attenuated controls was delayed by only ~ 2 days.

ANGIOZYMETM delivered by subcutaneous bolus was also tested in combination with either Gemcytabine or cyclophosphamide. Tumor growth delay increased by about 3 days in the presence of combination therapy with ANGIOZYMETM and Gemcytabine over the effects of either treatment alone. The combination of ANGIOZYMETM and cyclophosphamide did not increase tumor growth delay over that of cyclophosphamide alone, however, suboptimal doses of cyclophosphamide were not included in this study. Neither of the attenuated controls increased the effect of the chemotherapeutic agents.

The effect of ANGIOZYMETM on metastases to the lung was also determined in the presence and absence of additional chemotherapeutic treatment. Macrometastases to the lungs were counted in two animals in each treatment group on day 20. In the presence of ANGIOZYMETM, with or without a chemotherapeutic agent, the lung metastases were reduced to zero. Treatment with either Gemcytabine or cyclophosphamide alone (mean number of metastases 4.5 and 4, respectively) were not as effective as ANGIOZYMETM alone or when used in combination with ANGIOZYMETM. Neither of the attenuated controls increased the effect of the chemotherapeutic agents.

The effect on metastases to the lung was also determined following continuous treatment with ANGIOZYMETM. At day 20, an average of ~8 macrometastases were noted in the treatment groups which had been instrumented with Alzet minipumps (either 14- or 28-day pumps). This is a decrease in metastases of ~50% from the untreated group. Since

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ANGIOZYMETM delivered by a daily subcutaneous bolus resulted in zero metastases (Fig.4) in the two animals counted, it is possible that the additional burden of being instrumented with the minipump contributes to a slightly decreased response to ANGIOZYMETM.

Example 5: Identification of Potential Target Sites in Human VEGFR1 and/or VEGFR2 RNA

The sequence of human VEGFR1 and/or VEGFR2 genes are screened for accessible sites using a computer-folding algorithm. Regions of the RNA that do not form secondary folding structures and contain potential enzymatic nucleic acid molecule and/or antisense binding/cleavage sites are identified. An exemplary sequence of an enzymatic nucleic acid molecule of the invention is shown in Formula I and/or Formula II (SEQ ID Nos: 5977 and 5978, respectively). Other nucleic acid molecules and targets contemplated by the invention are described in Pavco et al., US Patent Application No. 09/870,161, incorporated by reference herein in its entirety. Similarly, other nucleic acid molecules of the invention, including antisense, aptamers, dsRNA, siRNA, and/or 2,5-A chimeras, can be designed to modulate the expression of the nucleic acid targets described in Pavco et al., US Patent Application No. 09/870,161.

Example 6: Selection of Enzymatic Nucleic Acid Cleavage Sites in Human VEGFR1 and/or VEGFR2 RNA

Enzymatic nucleic acid molecule target sites are chosen by analyzing sequences of human VEGFR1 receptor (for example Genbank Accession No. NM_002019), and VEGFR2 receptor (for example Genbank Accession No. NM_002253) genes and prioritizing the sites on the basis of folding. Enzymatic nucleic acid molecules are designed that can bind each target and are individually analyzed by computer folding (Christoffersen *et al.*, 1994 *J. Mol. Struc. Theochem*, 311, 273; Jaeger *et al.*, 1989, *Proc. Natl. Acad. Sci. USA*, 86, 7706) to assess whether the enzymatic nucleic acid molecule sequences fold into the appropriate secondary structure. Those enzymatic nucleic acid molecules with unfavorable intramolecular interactions between the binding arms and the catalytic core can be eliminated from consideration. As discussed herein, varying binding arm lengths can be chosen to optimize activity. Generally, at least 4 bases on each arm are able to bind to, or otherwise interact with, the target RNA.

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30 <u>Example 7: Chemical Synthesis and Purification of Ribozymes and Antisense for Efficient</u> Cleavage and/or blocking of VEGFR1 and/or VEGFR2 RNA

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Enzymatic nucleic acid molecules and antisense constructs are designed to anneal to various sites in the RNA message. The binding arms of the enzymatic nucleic acid molecules are complementary to the target site sequences described above, while the antisense constructs are fully complementary to the target site sequences described above. RNAi molecules (dsRNA) likewise have one strand of RNA or a portion of RNA complementarity to the target site sequence or a portion of the target site sequence. For example, complementarity within the double-strand RNAi structure is formed from two separate individual RNA strands or from self-complementary areas of a topologically closed, individual RNA strand which can be optionally circular. The nucleic acid molecules were chemically synthesized. The method of synthesis used followed the procedure for normal RNA synthesis as described above and in Usman *et al.*, (1987 J. Am. Chem. Soc., 109, 7845), Scaringe *et al.*, (1990 Nucleic Acids Res., 18, 5433) and Wincott *et al.*, supra, and made use of common nucleic acid protecting and coupling groups, such as dimethoxytrityl at the 5'-end, and phosphoramidites at the 3'-end. The average stepwise coupling yields were typically >98%.

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Nucleic acid molecules are also synthesized from DNA templates using bacteriophage T7 RNA polymerase (Milligan and Uhlenbeck, 1989, Methods Enzymol. 180, 51). Nucleic acid molecules of the invention are purified by gel electrophoresis using general methods or are purified by high pressure liquid chromatography (HPLC; See Wincott *et al.*, supra; the totality of which is hereby incorporated herein by reference) and are resuspended in water. Examples of sequences of chemically synthesized enzymatic nucleic acid molecules are shown in Formula I (SEQ ID NO: 5977), Formula II (SEQ ID NO: 5978) and in Pavco *et al.*, US Patent Application No. 09/870,161.

Example 8: Enzymatic Nucleic Acid Molecule Cleavage of VEGFR1 and/or VEGFR2 RNA Target in vitro

Enzymatic nucleic acid molecules targeted to the human VEGFR1 and/or VEGFR2 RNA are designed and synthesized as described above. These enzymatic nucleic acid molecules can be tested for cleavage activity in vitro, for example, using the following procedure. The target sequences and the nucleotide location within the VEGFR1 and/or VEGFR2 RNA are described in Pavco et al., US Patent Application No. 09/870,161.

Cleavage Reactions: Full-length or partially full-length, internally-labeled target RNA for enzymatic nucleic acid molecule cleavage assay is prepared by *in vitro* transcription in the presence of [a-32p] CTP, passed over a G 50 Sephadex column by spin chromatography and used as substrate RNA without further purification. Alternately, substrates are 5'-32P-end

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labeled using T4 polynucleotide kinase enzyme. Assays are performed by pre-warming a 2X concentration of purified enzymatic nucleic acid molecule in enzymatic nucleic acid molecule cleavage buffer (50 mM Tris-HCl, pH 7.5 at 37°C, 10 mM MgCl₂) and the cleavage reaction was initiated by adding the 2X enzymatic nucleic acid molecule mix to an equal volume of substrate RNA (maximum of 1-5 nM) that was also pre-warmed in cleavage buffer. As an initial screen, assays are carried out for 1 hour at 37°C using a final concentration of either 40 nM or 1 mM enzymatic nucleic acid molecule, *i.e.*, enzymatic nucleic acid molecule excess. The reaction is quenched by the addition of an equal volume of 95% formamide, 20 mM EDTA, 0.05% bromophenol blue and 0.05% xylene cyanol after which the sample is heated to 95°C for 2 minutes, quick chilled and loaded onto a denaturing polyacrylamide gel. Substrate RNA and the specific RNA cleavage products generated by enzymatic nucleic acid molecule cleavage are visualized on an autoradiograph of the gel. The percentage of cleavage is determined by Phosphor Imager[®] quantitation of bands representing the intact substrate and the cleavage products.

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15 Example 9: Phase I/II Study of Repetitive Dosing of ANGIOZYMETM Targeting the VEGFR1 (FLT-1) Receptor of VEGF

A ribozyme therapeutic agent ANGIOZYMETM (SEQ ID NO: 5977), was assessed by daily subcutaneous administration in a phase I/II trial for 31 patients with refractory solid tumors. Demographic information relating to patients enrolled in the study are shown in Table III. The primary study endpoint was to determine the safety and maximum tolerated dose of ANGIOZYME™. Secondary endpoints assessed ANGIOZYME™ pharmacokinetics and clinical response. Patients were treated at the following doses: 3 patients received doses of 10 mg/m²/day, 4 patients received 30 mg/m²/day, 20 patients received 100 mg/m²/day, and 4 patients received 300 mg/m²/day. All but one patient were dosed for a minimum of 29 consecutive days with 24-hour pharmacokinetic analyses on Day 1 and 29. Clinical response was assessed monthly. Results The data from 20 patients indicated ANGIOZYMETM was well tolerated, with no systemic adverse events. Figure 5 shows the plasma concentration profile of ANGIOZYMETM after a single subcutaneous dose of 10, 30, 100, or 300 mg/m². The pharmacokinetic parameters of ANGIOZYME[™] after subcutaneous bolus administration are outlined in Table IV. An MTD (maximum tolerated dose) could not be established. One patient in the 300 mg/m²/d group experienced a grade 3 injection site reaction. Patients in the other groups experienced intermittent grade 1 and grade 2 injection site reactions with erythema and induration. No systemic or laboratory toxicities were observed. Pharmacokinetic analyses demonstrated dose-dependent plasma concentrations with good bioavailability (70-90%), t1/2 = 209-384 min, and no accumulation after repeated

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doses. To date, 17/28 (61%) of evaluable patients have had stable disease for periods of one to six months and two patients (nasopharyngeal squamous cell carcinoma and melanoma) had minor clinical responses. The patient with nasopharyngeal carcinoma demonstrated central tumor necrosis as indicated by MRI. The longest period of treatment thus far has been 8 months for two patients at 100 mg/m²/d (breast, peritoneal mesothelioma).

Example 10: Down-regulation of VEGFR1 gene expression to treat gynecologic neovascularization dependent conditions

One patient in the Phase I/II trial described in Example 19 was menstruating prior to enrollment in the ANGIOZYMETM monotherapy trial. After 1-2 months on trial, the patient's menstrual cycles ceased. The patient remained on trial for approximately 11 months and did not menstruate. The patient then went off the trial for about 4 months and the menstrual Re-enrollment in the ANGIOZYMETM trial resulted in the patient's cycles resumed. menstrual cycle stopping again. This clinical observation suggests that ANGIOZYMETM is interfering with the patient's menstrual cycle, perhaps by inhibiting neovascularization of uterine tissue. This data also suggests that ANGIOZYMETM has a direct effect on the endometrial tissue or an effect on LH/FSH stimulation. These results suggest the treatment or control, using ANGIOZYME™ (SEQ ID NO: 5977) and/or other nucleic acid molecules of the instant invention, of various clinical targets and/or processes associated with female reproduction and gynecologic neovascularization, such as endometriosis, birth control, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), menopausal dysfunction, endometrial carcinoma or other condition associated with the expression of VEGFR1 and/or VEGFR2 VEGF receptors.

Example 11: Down-regulation of VEGFR1 in clinical setting

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Twenty-seven of the patients enrolled in the Phase I/II trial described in Example 19
25 had day 1 (baseline) and day 43 (six-week) serum samples assayed for VEGFR1 biomarker.

VEGFR1 levels were statistically different after six weeks of ANGIOZYME treatment

(Figure 9). Although statistical testing involving all 27 patients showed statistical support for

effects, not all patients presented with elevated levels of VEGF-R1. Since the effects of

ANGIOZYME on VEGF-R1 may only be demonstrated when sufficient levels are present at

baseline, a cutoff of 100 pg/mL was chosen and changes in this VEGF-R1 were re-analyzed.

Ten of the 27 patients presented with baseline VEGF-R1 levels in excess of 100 pg/mL. For

this subgroup VEGF-R1 levels were lower by 3-fold, p<.001. After six weeks of treatment
the average (geometric mean) of VEGF-R1 decreased for this subgroup from 419 pg/ml to

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132pg/ml, p<.001. These results show that treatment with ANGIOZYME results in a statistically significant reduction in VEGFR1 expression.

Example 22: *In vivo* inhibition of neovascularization in an ocular animal model by VEGF-R ribozymes.

5 Summary of the Mouse Model: A mouse model of proliferative retinopathy (Aiello et al., 1995, Proc. Natl. Acad. Sci. USA 92: 10457-10461; Robinson et al., 1996, Proc. Natl. Acad. Sci. USA 93: 4851-4856; Pierce et al., 1996, Archives of Ophthalmology 114: 1219-1228) in which neovascularization of the mouse retina is induced by exposure of 7-day old mice to 75% oxygen followed by a return to normal room air. The initial period in high 10 oxygen causes an obliteration of developing blood vessels in the retina. Exposure to room air five days later is perceived as hypoxia by the now underperfused retina. The result is an immediate upregulation of VEGF mRNA and VEGF protein (between 6-12 hours) followed by an extensive retinal neovascularization that peaks in ~5 days. Although this model is more representative of retinopathy of prematurity than diabetic retinopathy, it is an accepted small 15 animal model in which to study neovascular pathophysiology of the retina. In fact, intravitreal injection of certain antisense DNA constructs targeting VEGF mRNA have been found to be antiangiogenic in this model, as were soluble VEGF receptor chimeric proteins designed to bind VEGF in the vitreous humor (Aiello et al., 1995, Proc. Natl. Acad. Sci. USA 92: 10457-10461; Robinson et al., 1996, Proc. Natl. Acad. Sci. USA 93: 4851-4856; Pierce 20 et al., 1996, Archives of Ophthalmology 114: 1219-1228).

Summary of experiment: The effect of an anti-KDR/Flk-1 ribozyme on the peak level of neovascularization was tested in the mouse model described above. As shown in Figure 10, P7 mice were removed from the hyperoxic chamber and the mice received two intraocular injections (P12 and P13) in the right eye of 10 µg RPI.4731, the anti- KDR/Flk-1 ribozyme. The left eye of each mouse was treated as a control and received intraocular injections of saline. Five days after being exposed to room air, neovascular nuclei in the retina of both eyes were counted. Data are presented in Figure 11. There was a significant decrease in retinal neovascularization (~40%) compared to the control, saline-injected eyes.

RPI.4731 sequence and chemical composition: 5'-u_sa_sc_s a_sau ucU GAu Gag gcg aaa gcc Gaa Aag aca aB-3' (SEQ ID NO: 5978)

where:

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uppercase G, A = ribonucleotides lowercase = 2'-OMe U = 2'-C-allyl uridine

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B = inverted abasic nucleotide

S = phosphorothioate internucleotide linkage

Indications

- 5 1) Tumor angiogenesis: Angiogenesis has been shown to be necessary for tumors to grow into pathological size (Folkman, 1971, PNAS 76, 5217-5221; Wellstein & Czubayko, 1996, Breast Cancer Res and Treatment 38, 109-119). In addition, it allows tumor cells to travel through the circulatory system during metastasis. Increased levels of gene expression of a number of angiogenic factors such as vascular endothelial growth factor (VEGF) have 10 been reported in vascularized and edema-associated brain tumors (Berkman et al., 1993 J. Clini. Invest. 91, 153). A more direct demostration of the role of VEGF in tumor angiogenesis was demonstrated by Jim Kim et al., 1993 Nature 362,841 wherein, monoclonal antibodies against VEGF were successfully used to inhibit the growth of rhabdomyosarcoma, glioblastoma multiforme cells in nude mice. Similarly, expression of a dominant negative 15 mutated form of the flt-1 VEGF receptor inhibits vascularization induced by human glioblastoma cells in nude mice (Millauer et al., 1994, Nature 367, 576). Specific tumor/cancer types that can be targeted using the nucleic acid molecules of the invention include but are not limited to the tumor/cancer types described under Diagnosis in Table III.
- 2) Ocular diseases: Neovascularization has been shown to cause or exacerbate ocular diseases including but not limited to, macular degeneration, neovascular glaucoma, diabetic retinopathy, myopic degeneration, and trachoma (Norrby, 1997, APMIS 105, 417-437). Aiello et al., 1994 New Engl. J. Med. 331, 1480, showed that the ocular fluid, of a majority of patients suffering from diabetic retinopathy and other retinal disorders, contains a high concentration of VEGF. Miller et al., 1994 Am. J. Pathol. 145, 574, reported elevated levels of VEGF mRNA in patients suffering from retinal ischemia. These observations support a direct role for VEGF in ocular diseases. Other factors including those that stimulate VEGF synthesis may also contribute to these indications.
- 3) <u>Dermatological Disorders:</u> Many indications have been identified which may by angiogenesis dependent including but not limited to psoriasis, verruca vulgaris, angiofibroma of tuberous sclerosis, pot-wine stains, Sturge Weber syndrome, Kippel-Trenaunay-Weber syndrome, and Osler-Weber-Rendu syndrome (Norrby, *supra*). Intradermal injection of the angiogenic factor b-FGF demonstrated angiogenesis in nude mice (Weckbecker et al., 1992, *Angiogenesis: Key principles-Science-Technology-Medicine*, ed R. Steiner) Detmar *et al.*, 1994 *J. Exp. Med.* 180, 1141 reported that VEGF and its receptors were over-expressed in

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psoriatic skin and psoriatic dermal microvessels, suggesting that VEGF plays a significant role in psoriasis.

4) Rheumatoid arthritis: Immunohistochemistry and *in situ* hybridization studies on tissues from the joints of patients suffering from rheumatoid arthritis show an increased level of VEGF and its receptors (Fava *et al.*, 1994 *J. Exp. Med.* 180, 341). Additionally, Koch *et al.*, 1994 *J. Immunol.* 152, 4149, found that VEGF-specific antibodies were able to significantly reduce the mitogenic activity of synovial tissues from patients suffering from rheumatoid arthritis. These observations support a direct role for VEGF in rheumatoid arthritis. Other angiogenic factors including those of the present invention may also be involved in arthritis.

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5) Endometriosis: Various studies indicate that VEGF is directly implicated in endometriosis. In one study, VEGF concentrations measured by ELISA in peritoneal fluid were found to be significantly higher in women with endometriosis than in women without endometriosis ($24.1 \pm 15 \text{ ng/ml}$ vs $13.3 \pm 7.2 \text{ ng/ml}$ in normals). In patients with endometriosis, higher concentrations of VEGF were detected in the proliferative phase of the menstrual cycle ($33 \pm 13 \text{ ng/ml}$) compared to the secretory phase ($10.7 \pm 5 \text{ ng/ml}$). The cyclic variation was not noted in fluid from normal patients (McLaren *et al.*, 1996, *Human Reprod.* 11, 220-223). In another study, women with moderate to severe endometriosis had significantly higher concentrations of peritoneal fluid VEGF than women without endometriosis. There was a positive correlation between the severity of endometriosis and the concentration of VEGF in peritoneal fluid. In human endometrial biopsies, VEGF expression increased relative to the early proliferative phase approximately 1.6-, 2-, and 3.6-fold in midproliferative, late proliferative, and secretory endometrium (Shifren *et al.*, 1996, *J. Clin. Endocrinol. Metab.* 81, 3112-3118).

In a third study, VEGF-positive staining of human ectopic endometrium was shown to be localized to macrophages (double immunofluorescent staining with CD14 marker). Peritoneal fluid macrophages demonstrated VEGF staining in women with and without endometriosis. However, increased activation of macrophages (acid phosphatatse activity) was demonstrated in fluid from women with endometriosis compared with controls. Peritoneal fluid macrophage conditioned media from patients with endometriosis resulted in significantly increased cell proliferation ([³H] thymidine incorporation) in HUVEC cells compared to controls. The percentage of peritoneal fluid macrophages with VEGFR2 mRNA was higher during the secretory phase, and significantly higher in fluid from women with endometriosis (80 ± 15%) compared with controls (32 ± 20%). Flt-mRNA was detected in

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peritoneal fluid macrophages from women with and without endometriosis, but there was no difference between the groups or any evidence of cyclic dependence (McLaren et al., 1996, J. Clin. Invest. 98, 482-489).

In the early proliferative phase of the menstrual cycle, VEGF has been found to be expressed in secretory columnar epithelium (estrogen-responsive) lining both the oviducts and the uterus in female mice. During the secretory phase, VEGF expression was shown to have shifted to the underlying stroma composing the functional endometrium. In addition to examining the endometrium, neovascularization of ovarian follicles and the corpus luteum, as well as angiogenesis in embryonic implantation sites have been analyzed. For these processes, VEGF was expressed in spatial and temporal proximity to forming vasculature (Shweiki *et al.*, 1993, *J. Clin. Invest.* 91, 2235-2243).

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The present body of knowledge in VEGFR1 and/or VEGFR2 research indicates the need for methods to assay VEGFR1 and/or VEGFR2 activity and for compounds that can regulate VEGFR1 and/or VEGFR2 expression for research, diagnostic, and therapeutic use. As described herein, the nucleic acid molecules of the present invention can be used in assays to diagnose disease state related of VEGF, VEGFR1 and/or VEGFR2 levels. In addition, the nucleic acid molecules can be used to treat disease state related to VEGF and/or VEGFR, such as VEGFR1 and/or VEGFR2 levels.

Particular processes, diseases, or conditions that can be associated with VEGFR1 and/or VEGFR2 levels include, but are not limited to, gynecologic neovascularization, such as endometriosis, endometrial carcinoma, gynecologic bleeding disorders, irregular menstrual cycles, ovulation, premenstrual syndrome (PMS), menopausal dysfunction, other diseases and conditions discussed herein, and other diseases or conditions that are related to or respond to the levels of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2, in a cell or tissue, alone or in combination with other therapies

The use of GnRH (gonadotropin releasing hormone) agonists, Lupron Depot (Leuprolide Acetate), Synarel (naferalin acetate), Zolodex (goserelin acetate), Suprefact (buserelin acetate), Danazol, or oral contraceptives including, but not limited to, Depo-Provera or Provera (medroxyprogesterone acetate), or any other estrogen/progesterone contraceptive, are all non-limiting examples of compounds and methods that can be combined with or used in conjunction with the nucleic acid molecules of the instant invention. Various chemotherapies can be readily combined with nucleic acid molecules of the invention for the treatment of endometrial carcinoma. Common chemotherapies that can be combined with nucleic acid molecules of the instant invention include various combinations of cytotoxic drugs to kill the

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cancer cells. These drugs include but are not limited to paclitaxel (Taxol), docetaxel, cisplatin, methotrexate, cyclophosphamide, doxorubin, fluorouracil carboplatin, edatrexate, gemcitabine, vinorelbine *etc*. Those skilled in the art will recognize that other drug compounds and therapies can be readily combined with the nucleic acid molecules of the instant invention and are hence within the scope of the instant invention.

Animal Models

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There are several animal models in which the anti-angiogenesis effect of nucleic acids of the present invention, such as ribozymes, directed against VEGF-R mRNAs can be tested. Typically, a corneal model has been used to study angiogenesis in rat and rabbit since recruitment of vessels can easily be followed in this normally avascular tissue (Pandey *et al.*, 1995 *Science* 268: 567-569). In these models, a small Teflon or Hydron disk pretreated with an angiogenesis factor (e.g. bFGF or VEGF) is inserted into a pocket surgically created in the cornea. Angiogenesis is monitored 3 to 5 days later. Ribozymes directed against VEGF-R mRNAs would be delivered in the disk as well, or dropwise to the eye over the time course of the experiment. In another eye model, hypoxia has been shown to cause both increased expression of VEGF and neovascularization in the retina (Pierce *et al.*, 1995 *Proc. Natl. Acad. Sci.* USA, 92: 905-909; Shweiki *et al.*, 1992 *J. Clin. Invest.* 91: 2235-2243).

In human glioblastomas, it has been shown that VEGF is at least partially responsible for tumor angiogenesis (Plate *et al.*, 1992 *Nature* 359, 845). Animal models have been developed in which glioblastoma cells are implanted subcutaneously into nude mice and the progress of tumor growth and angiogenesism is studied (Kim *et al.*, 1993 *supra*; Millauer *et al.*, 1994 *supra*).

Another animal model that addresses neovascularization involves Matrigel, an extract of basement membrane that becomes a solid gel when injected subcutaneously (Passaniti *et al.*, 1992 *Lab. Invest.* 67: 519-528). When the Matrigel is supplemented with angiogenesis factors such as VEGF, vessels grow into the Matrigel over a period of 3 to 5 days and angiogenesis can be assessed. Ribozymes directed against VEGF-R mRNAs can be delivered in the Matrigel to assess anti-angiogesis effect.

Several animal models exist for screening of anti-angiogenic agents. These include corneal vessel formation following corneal injury (Burger et al., 1985 Cornea 4: 35-41; Lepri, et al., 1994 J. Ocular Pharmacol. 10: 273-280; Ormerod et al., 1990 Am. J. Pathol. 137: 1243-1252) or intracorneal growth factor implant (Grant et al., 1993 Diabetologia 36: 282-291; Pandey et al. 1995 supra; Zieche et al., 1992 Lab. Invest. 67: 711-715), vessel

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growth into Matrigel matrix containing growth factors (Passaniti et al., 1992 supra), female reproductive organ neovascularization following hormonal manipulation (Shweiki et al., 1993 Clin. Invest. 91: 2235-2243), several models involving inhibition of tumor growth in highly vascularized solid tumors (O'Reilly et al., 1994 Cell 79: 315-328; Senger et al., 1993 Cancer and Metas. Rev. 12: 303-324; Takahasi et al., 1994 Cancer Res. 54: 4233-4237; Kim et al., 1993 supra), and transient hypoxia-induced neovascularization in the mouse retina (Pierce et al., 1995 Proc. Natl. Acad. Sci. USA. 92: 905-909).

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The cornea model, described in Pandey et al. *supra*, is the most common and well characterized anti-angiogenic agent efficacy screening model. This model involves an avascular tissue into which vessels are recruited by a stimulating agent (growth factor, thermal or alkalai burn, endotoxin). The corneal model utilizes the intrastromal corneal implantation of a Teflon pellet soaked in a VEGF-Hydron solution to recruit blood vessels toward the pellet which can be quantitated using standard microscopic and image analysis techniques. To evaluate their anti-angiogenic efficacy, ribozymes are applied topically to the eye or bound within Hydron on the Teflon pellet itself. This avascular cornea as well as the Matrigel (see below) provide for low background assays. While the corneal model has been performed extensively in the rabbit, studies in the rat have also been conducted.

The mouse model (Passaniti et al., *supra*) is a non-tissue model which utilizes Matrigel, an extract of basement membrane (Kleinman et al., 1986) or Millipore[®] filter disk, which can be impregnated with growth factors and anti-angiogenic agents in a liquid form prior to injection. Upon subcutaneous administration at body temperature, the Matrigel or Millipore[®] filter disk forms a solid implant. VEGF embedded in the Matrigel or Millipore[®] filter disk would be used to recruit vessels within the matrix of the Matrigel or Millipore[®] filter disk which can be processed histologically for endothelial cell specific vWF (factor VIII antigen) immunohistochemistry, Trichrome-Masson stain, or hemoglobin content. Like the cornea, the Matrigel or Millipore[®] filter disk are avascular; however, it is not tissue. In the Matrigel or Millipore[®] filter disk model, ribozymes are administered within the matrix of the Matrigel or Millipore[®] filter disk to test their anti-angiogenic efficacy. Thus, delivery issues in this model, as with delivery of ribozymes by Hydron- coated Teflon pellets in the rat cornea model, are minimized due to the homogeneous presence of the ribozyme within the respective matrix.

These models offer a distinct advantage over several other angiogenic models listed previously. The ability to use VEGF as a pro-angiogenic stimulus in both models is highly desirable since ribozymes target only VEGFr mRNA. In other words, the involvement of

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other non-specific types of stimuli in the comea and Matrigel models is not advantageous from the standpoint of understanding the pharmacologic mechanism by which the anti-VEGFr mRNA ribozymes produce their effects. In addition, the models allow for testing the specificity of the anti-VEGFr mRNA ribozymes by using either aFGF or bFGF as a pro-angiogenic factor. Vessel recruitment using FGF should not be affected in either model by anti-VEGFr mRNA ribozymes. Other models of angiogenesis, including vessel formation in the female reproductive system using hormonal manipulation (Shweiki et al., 1993 supra); a variety of vascular solid tumor models which involve indirect correlations with angiogenesis (O'Reilly et al., 1994 supra; Senger et al., 1993 supra; Takahasi et al., 1994 supra; Kim et al., 1993 supra); and retinal neovascularization following transient hypoxia (Pierce et al., 1995 supra), were not selected for efficacy screening due to their non-specific nature, although they can be useful models due to a demonstrated correlation between VEGF and angiogenesis.

Other model systems to study tumor angiogenesis is reviewed by Folkman, 1985 Adv. Cancer. Res.. 43, 175.

Use of murine models

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For a typical systemic study involving 10 mice (20 g each) per dose group, 5 doses (1, 3, 10, 30 and 100 mg/kg daily over 14 days continuous administration), approximately 400 mg of ribozyme, formulated in saline would be used. A similar study in young adult rats (200 g) would require over 4 g. Parallel pharmacokinetic studies involve the use of similar quantities of ribozymes further justifying the use of murine models.

Ribozymes and Lewis lung carcinoma and B-16 melanoma murine models

Identifying a common animal model for systemic efficacy testing of ribozymes is an efficient way of screening ribozymes for systemic efficacy.

The Lewis lung carcinoma and B-16 murine melanoma models are well accepted models of primary and metastatic cancer and are used for initial screening of anti-cancer agents. These murine models are not dependent upon the use of immunodeficient mice, are relatively inexpensive, and minimize housing concerns. Both the Lewis lung and B-16 melanoma models involve subcutaneous implantation of approximately 106 tumor cells from metastatically aggressive tumor cell lines (Lewis lung lines 3LL or D122, LLc-LN7; B-16-BL6 melanoma) in C57BL/6J mice. Alternatively, the Lewis lung model can be produced by the surgical implantation of tumor spheres (approximately 0.8 mm in diameter). Metastasis

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also can be modeled by injecting the tumor cells directly intraveneously. In the Lewis lung model, microscopic metastases can be observed approximately 14 days following implantation with quantifiable macroscopic metastatic tumors developing within 21-25 days. The B-16 melanoma exhibits a similar time course with tumor neovascularization beginning 4 days following implantation. Since both primary and metastatic tumors exist in these models after 21-25 days in the same animal, multiple measurements can be taken as indices of efficacy. Primary tumor volume and growth latency as well as the number of micro- and macroscopic metastatic lung foci or number of animals exhibiting metastases can be quantitated. The percent increase in lifespan can also be measured. Thus, these models provide suitable primary efficacy assays for screening systemically administered ribozymes/ribozyme formulations.

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In the Lewis lung and B-16 melanoma models, systemic pharmacotherapy with a wide variety of agents usually begins 1-7 days following tumor implantation/inoculation with either continuous or multiple administration regimens. Concurrent pharmacokinetic studies can be performed to determine whether sufficient tissue levels of ribozymes can be achieved for pharmacodynamic effect to be expected. Furthermore, primary tumors and secondary lung metastases can be removed and subjected to a variety of *in vitro* studies (*i.e.* target RNA reduction).

Flt-1, KDR and/or flk-1 protein levels can be measured clinically or experimentally by FACS analysis. Flt-1, KDR and/or flk-1 encoded mRNA levels can be assessed by Northern analysis, RNase-protection, primer extension analysis and/or quantitative RT-PCR. Ribozymes that block flt-1, KDR and/or flk-1 protein encoding mRNAs and therefore result in decreased levels of flt-1, KDR and/or flk-1 activity by more than 20% in vitro can be identified.

Ribozymes and/or genes encoding them are delivered by either free delivery, liposome delivery, cationic lipid delivery, adeno-associated virus vector delivery, adenovirus vector delivery, retrovirus vector delivery or plasmid vector delivery in these animal model experiments (see above).

Subjects can be treated by locally administering nucleic acids targeted against VEGF-R by direct injection. Routes of administration include, but are not limited to, intravascular, intramuscular, subcutaneous, intraarticular, aerosol inhalation, oral (tablet, capsule or pill form), topical, systemic, ocular, intraperitoneal and/or intrathecal delivery.

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Surgically induced models of endometriosis have been developed in rats, mice, and rabbits. Non-human primates demonstrate spontaneous endometriosis, but surgical induction can also be used. In addition to the surgical technique, cycle monitoring can be performed by daily vaginal cytology in primates. For all of the surgically induced models of endometriosis, the following general procedure is used. An initial laparotomy is performed to implant tissue from a donor animal. A portion of one uterine horn (or one complete horn in the case of mice) is removed. The endometrium of this piece of uterus is separated from the myometrium and cut into small segments (4-10 mm2). Segments (approximately 3) are sutured to various locations within the abdominal cavity (peritoneum, intestinal mesentery vessels, uterus, broad ligament). Cummings and Metcalf (1996) attached whole segments of mouse uterus without separating the endometrium from the myometrium. Implants are allowed to grow for 3-6 A second laparotomy is sometimes performed to verify development of weeks. endometriosis-like foci (vascularization and cysts filled with clear fluid). This second laparotomy was done in the studies by Quereda et al., (1996) and Stoeckemann et al., (1995). After 3-6 weeks post-surgery and/or following visualization of endometriosis, drug treatment is initiated and continued for a prescribed period of time. At the termination of these studies, animals are euthanized. Endpoints include, but are not limited to, changes in the surface area of the implants and tissue mass of the ectopic endometrial implants (see for example Brogniez et al., 1995, Human Reprod. 10, 927-931; Cummings et al., 1996, Tox. Appl. Pharm. 138, 131-139; Cummings and Metcalf, 1996, Proc. Soc. Exp. Biol. Med. 212, 332-337; D'Hooghe et al., 1996, Fertility and Sterility. 66, 809-813; Ouereda et al., 1996, Eur. J. Obstet. Gynecol. Rep. Biol. 67, 35-40; and Stoeckemann et al., 1995, Human Reprod. 10, 3264-3271).

Combination therapies

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Gemcytabine and cyclophosphamide are non-limiting examples of chemotherapeutic agents that can be combined with or used in conjunction with the nucleic acid molecules (e.g. ribozymes and antisense molecules) of the instant invention. Those skilled in the art will recognize that other anti-angiogenic and/or anti-cancer compounds and therapies can be similarly be readily combined with the nucleic acid molecules of the instant invention (e.g. ribozymes and antisense molecules) and are hence within the scope of the instant invention. Such compounds and therapies are well known in the art (see for example Cancer: Principles

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and Pranctice of Oncology, Volumes 1 and 2, eds Devita, V.T., Hellman, S., and Rosenberg, S.A., J.B. Lippincott Company, Philadelphia, USA; incorporated herein by reference) and include, without limitations, folates, antifolates, pyrimidine analogs, fluoropyrimidines, purine analogs, adenosine analogs, topoisomerase I inhibitors, anthrapyrazoles, retinoids, antibiotics, anthacyclins, platinum analogs, alkylating agents, nitrosoureas, plant derived compounds such as vinca alkaloids, epipodophyllotoxins, tyrosine kinase inhibitors, taxols, radiation therapy, surgery, nutritional supplements, gene therapy, radiotherapy, for example 3D-CRT, immunotoxin therapy, for example ricin, and monoclonal antibodies. Specific examples of chemotherapeutic compounds than can be combined with or used in conjuction with the nucleic acid molecules of the invention include but are not limited to Paclitaxel; Docetaxel; Methotrexate; Doxorubin; Edatrexate; Vinorelbine; Tomaxifen; Leucovorin; 5fluoro uridine (5-FU); Irinotecan (CAMPTOSAR® or CPT-11 or Camptothecin-11 or Campto); Cisplatin; Carboplatin; Amsacrine; Cytarabine; Bleomycin; Mitomycin C; Dactinomycin; Mithramycin; Hexamethylmelamine; Dacarbazine; L-asperginase; Nitrogen mustard; Melphalan, Chlorambucil; Busulfan; Ifosfamide; 4-hydroperoxycyclophosphamide, Thiotepa; Tamoxifen, Herceptin; IMC C225; ABX-EGF: and combinations thereof.

Diagnostic uses

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The nucleic acid molecules of this invention (e.g., enzymatic nucleic acid molecules) can be used as diagnostic tools to examine genetic drift and mutations within diseased cells or to detect the presence of VEGF and/or VEGFr, such as VEGFR1 and/or VEGFR2 RNA in a The close relationship between enzymatic nucleic acid molecule activity and the structure of the target RNA allows the detection of mutations in any region of the molecule which alters the base-pairing and three-dimensional structure of the target RNA. By using multiple enzymatic nucleic acid molecules described in this invention, one can map nucleotide changes which are important to RNA structure and function in vitro, as well as in cells and tissues. Cleavage of target RNAs with enzymatic nucleic acid molecules can be used to inhibit gene expression and define the role (essentially) of specified gene products in the progression of disease. In this manner, other genetic targets can be defined as important mediators of the disease. These experiments can lead to better treatment of the disease progression by affording the possibility of combinational therapies (e.g., multiple enzymatic nucleic acid molecules targeted to different genes, enzymatic nucleic acid molecules coupled with known small molecule inhibitors, or intermittent treatment with combinations of enzymatic nucleic acid molecules and/or other chemical or biological molecules). Other in

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vitro uses of enzymatic nucleic acid molecules of this invention are well known in the art, and include detection of the presence of mRNAs associated with VEGF, VEGFR1 and/or VEGFR2-related condition. Such RNA is detected by determining the presence of a cleavage product after treatment with an enzymatic nucleic acid molecule using standard methodology.

In a specific example, enzymatic nucleic acid molecules which cleave only wild-type or mutant forms of the target RNA are used for the assay. The first enzymatic nucleic acid molecule is used to identify wild-type RNA present in the sample and the second enzymatic nucleic acid molecule is used to identify mutant RNA in the sample. As reaction controls, synthetic substrates of both wild-type and mutant RNA are cleaved by both enzymatic nucleic acid molecules to demonstrate the relative enzymatic nucleic acid molecule efficiencies in the reactions and the absence of cleavage of the "non-targeted" RNA species. The cleavage products from the synthetic substrates also serve to generate size markers for the analysis of wild-type and mutant RNAs in the sample population. Thus each analysis requires two enzymatic nucleic acid molecules, two substrates and one unknown sample which is combined into six reactions. The presence of cleavage products is determined using an RNAse protection assay so that full-length and cleavage fragments of each RNA can be analyzed in one lane of a polyacrylamide gel. It is not absolutely required to quantify the results to gain insight into the expression of mutant RNAs and putative risk of the desired phenotypic changes in target cells. The expression of mRNA whose protein product is implicated in the development of the phenotype (i.e., VEGFR1 and/or VEGFR2) is adequate to establish risk. If probes of comparable specific activity are used for both transcripts, then a qualitative comparison of RNA levels will be adequate and will decrease the cost of the initial diagnosis. Higher mutant form to wild-type ratios are correlated with higher risk whether RNA levels are compared qualitatively or quantitatively. The use of enzymatic nucleic acid molecules in diagnostic applications contemplated by the instant invention is described, for example, in Usman et al., US Patent Application No. 09/877,526, George et al., US Patent Nos. 5,834,186 and 5,741,679, Shih et al., US Patent No. 5,589,332, Nathan et al., US Patent No 5,871,914, Nathan and Ellington, International PCT publication No. WO 00/24931, Breaker et al., International PCT Publication Nos. WO 00/26226 and 98/27104, and Sullenger et al., US Patent Application Serial No. 09/205,520.

Additional Uses

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Uses of sequence-specific enzymatic nucleic acid molecules of the instant invention can have many of the same applications for the study of RNA that DNA restriction endonucleases have for the study of DNA (Nathans *et al.*, 1975 *Ann. Rev. Biochem.* 44:273). For example,

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the pattern of restriction fragments can be used to establish sequence relationships between two related RNAs, and large RNAs can be specifically cleaved to fragments of a size more useful for study. The ability to engineer sequence specificity of the enzymatic nucleic acid molecule is ideal for cleavage of RNAs of unknown sequence. Applicant has described the use of nucleic acid molecules to down-regulate gene expression of target genes in bacterial, microbial, fungal, viral, and eukaryotic systems including plant, or mammalian cells.

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All patents and publications mentioned in the specification are indicative of the levels of skill of those skilled in the art to which the invention pertains. All references cited in this disclosure are incorporated by reference to the same extent as if each reference had been incorporated by reference in its entirety individually.

One skilled in the art would readily appreciate that the present invention is well adapted to carry out the objects and obtain the ends and advantages mentioned, as well as those inherent therein. The methods and compositions described herein as presently representative of preferred embodiments are exemplary and are not intended as limitations on the scope of the invention. Changes therein and other uses will occur to those skilled in the art, which are encompassed within the spirit of the invention, are defined by the scope of the claims.

It will be readily apparent to one skilled in the art that varying substitutions and modifications may be made to the invention disclosed herein without departing from the scope and spirit of the invention. Thus, such additional embodiments are within the scope of the present invention and the following claims.

The invention illustratively described herein suitably may be practiced in the absence of any element or elements, limitation or limitations which is not specifically disclosed herein. Thus, for example, in each instance herein any of the terms "comprising", "consisting essentially of" and "consisting of" may be replaced with either of the other two terms. The terms and expressions which have been employed are used as terms of description and not of limitation, and there is no intention that in the use of such terms and expressions of excluding any equivalents of the features shown and described or portions thereof, but it is recognized that various modifications are possible within the scope of the invention claimed. Thus, it should be understood that although the present invention has been specifically disclosed by preferred embodiments, optional features, modification and variation of the concepts herein disclosed may be resorted to by those skilled in the art, and that such modifications and variations are considered to be within the scope of this invention as defined by the description and the appended claims.

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In addition, where features or aspects of the invention are described in terms of Markush groups or other grouping of alternatives, those skilled in the art will recognize that the invention is also thereby described in terms of any individual member or subgroup of members of the Markush group or other group.

5 Other embodiments are within the following claims.

TABLE I

Characteristics of Ribozymes

Group I Introns

Size: ~200 to >1000 nucleotides.

Requires a U in the target sequence immediately 5' of the cleavage site.

Binds 4-6 nucleotides at 5' side of cleavage site.

Over 75 known members of this class. Found in *Tetrahymena thermophila* rRNA, fungal mitochondria, chloroplasts, phage T4, blue-green algae, and others.

RNAseP RNA (M1 RNA)

Size: ~290 to 400 nucleotides.

RNA portion of a ribonucleoprotein enzyme. Cleaves tRNA precursors to form mature tRNA.

Roughly 10 known members of this group all are bacterial in origin.

Hammerhead Ribozyme

Size: ~13 to 40 nucleotides.

Requires the target sequence UH immediately 5' of the cleavage site.

Binds a variable number of nucleotides on both sides of the cleavage site.

14 known members of this class. Found in a number of plant pathogens (virusoids) that use RNA as the infectious agent (Figure 1 and 2)

Hairpin Ribozvme

Size: ~50 nucleotides.

Requires the target sequence GUC immediately 3' of the cleavage site.

Binds 4-6 nucleotides at 5' side of the cleavage site and a variable number to the 3' side of the cleavage site.

Only 3 known member of this class. Found in three plant pathogen (satellite RNAs of the tobacco ringspot virus, arabis mosaic virus and chicory yellow mottle virus) which uses RNA as the infectious agent (Figure 3).

Hepatitis Delta Virus (HDV) Ribozyme

Size: 50 - 60 nucleotides (at present).

Sequence requirements not fully determined.

Binding sites and structural requirements not fully determined, although no sequences 5' of cleavage site are required.

although no sequences 5 of cleavage site are required.

Only 1 known member of this class. Found in human HDV (Figure 4).

Neurospora VS RNA Ribozyme

Size: ~144 nucleotides (at present)

Cleavage of target RNAs recently demonstrated. Sequence requirements not fully determined. Binding sites and structural requirements not fully determined. Only 1 known member of this class. Found in *Neurospora* VS RNA (Figure 5).

Table II:

A. 2.5 µmol Synthesis Cycle ABI 394 Instrument

Reagent	Equivalents	Amount	Wait Time* DNA Wait Time* 2'- O-methyl	Wait Time* 2'- O-methyl	Wait Time* RNA
Phosphoramidites	6.5	163 µL	45 sec	2.5 min	7.5 min
S-Ethyl Tetrazole	23.8	238 µL	45 sec	2.5 min	7.5 min
Acetic Anhydride	100	233 pL	5 sec	5 sec	5 sec
N-Methyl Imidazole	186	233 µL	5 sec	5 sec	5 sec
TCA	176	2.3 mL	21 sec	21 sec	21 sec
lodine	11.2	1.7 mL	45 sec	45 sec	45 sec
Beaucage	12.9	645 µL	100 sec	300 sec	300 sec
Acetonitrile	NA	6.67 mL	NA	AN A	NA
Dogwood	B. 0.2 µmol Sy	nthesis Cycle	B. 0.2 µmol Synthesis Cycle ABI 394 Instrument	± ;	;
reagent	Equivalents	Amount	Wait Time* DNA	Wait Time* 2'- O-methyl	Wait Time* RNA
Phosphoramidites	15	31 µL	45 sec	233 sec	465 sec
S-Ethyl Tetrazole	38.7	31 µL	45 sec	233 min	465 sec
Acetic Anhydride	655	124 µL	5 sec	5 sec	5 sec
N-Methyl Imidazole	1245	124 µL	5 sec	5 sec	5 sec
TCA	700	732 µL	10 sec	10 sec	10 sec
lodine	20.6	244 µL	15 sec	15 sec	15 sec

Sec		Wait Time* Ribo	360sec	360 sec	10 sec	10 sec	15 sec	30 sec	200 sec	NA
300 sec 300 sec NA NA		Wait Time* 2'-O- methyl	180 sec	180 min	10 sec	10 sec	15 sec	30 sec	200 sec	NA
Sec	well Instrument	Wait Time* DNA	eo sec	oes 09	10 sec	10 sec	15 sec	30 sec	100 sec	NA
232 µL 100 2.64 mL NA	C. 0.2 µmol Synthesis Cycle 96 well Instrument	Amount DNA/2'-O-methyl/Ribo	40/60/120 µL	40/60/120 µL	50/50/50 µL	50/50/50 µL	250/500/500 µL	80/80/80 hL	80/120/120	1150/1150/1150 µL
7.7 NA	о О	Equivalents DNA/2'-O-methyl/Ribo	22/33/66	70/105/210	265/265/265	502/502/502	238/475/475	8.8/6.8/6.8	34/51/51	NA
Beaucage Acetonitrile		Reagent	Phosphoramidites	S-Ethyi Tetrazole	Acetic Anhydride	N-Methyl Imidazole	TCA	lodine	Beaucage	Acetonitrile

* Wait time does not include contact time during delivery.

Table III: Patient Demographics

Dose cohort				4	
(mg/m²)	Pt#	Age	Sex	Diagnosis	Doses
10	1001	49	F	NSC Lung	29
10	1002	65	F	liposarcoma	120
10	1003	49	M	nasopharyngeal CA	109
30	1004	35	M	non-small cell lung	1
30	1005	45	F	melanoma (ocular)	113
30	1006	57	M	colon	199
30	1007	39	F	epitheliod hemangioendothelioma	198
100	1008	52	M	adrenal CA	57
100	1009	44	F	breast	35
100	1010	62	F	renal	134
300	1011	24	F	melanoma	31
300	1012	57	M	renal cell	178
300	1013	53	M	nasopharyngeal SCCA	29
300	1014	64	F	peritoneal mesothelioma	324
100	1015	65	M	melanoma	140
1 100	1015		I IAT	i ilicialionia	1 140
100	1015	77	F	breast	140 265
100	1016		F	breast	265
100 100	1016 1017	77	F F	breast melanoma	265 35
100 100 100	1016 1017 1018	77 26	F F F	breast melanoma melanoma	265 35 7
100 100 100 100	1016 1017 1018 1019	77 26 69	F F F F	breast melanoma melanoma endometrial sarcoma	265 35 7 500
100 100 100 100 100	1016 1017 1018 1019 1020	77 26 69 65	F F F F M	breast melanoma melanoma endometrial sarcoma carcinoid	265 35 7 500 124
100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023	77 26 69 65 59 43 78	F F F M M	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma	265 35 7 500 124 34
100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022	77 26 69 65 59 43	F F F M M M	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal	265 35 7 500 124 34 8
100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023	77 26 69 65 59 43 78 40 52	F F F M M M	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal breast	265 35 7 500 124 34 8 50
100 100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026	77 26 69 65 59 43 78 40 52 39	F F F M M M F F	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal breast parotid adenocarcinoma	265 35 7 500 124 34 8 50 285
100 100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027	77 26 69 65 59 43 78 40 52 39 55	F F F M M M F F	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal breast parotid adenocarcinoma breast	265 35 7 500 124 34 8 50 285 71
100 100 100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026	77 26 69 65 59 43 78 40 52 39 55	F F F M M F F F F F F F F F F	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal breast parotid adenocarcinoma breast breast breast	265 35 7 500 124 34 8 50 285 71 34
100 100 100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027	77 26 69 65 59 43 78 40 52 39 55 52 38	F F F M M F F F F F F F F F F	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal breast parotid adenocarcinoma breast breast breast breast breast	265 35 7 500 124 34 8 50 285 71 34 36
100 100 100 100 100 100 100 100	1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028	77 26 69 65 59 43 78 40 52 39 55	F F M M M F F F F M M M M M M M M M M M	breast melanoma melanoma endometrial sarcoma carcinoid gallbladder adeno carcinoma colorectal breast parotid adenocarcinoma breast breast breast melanoma	265 35 7 500 124 34 8 50 285 71 34 36 29

One patient taken off study due to progressive disease. Allowed to resume $\mbox{ ANGIOZYME on a compassionate basis.}$

As of September 1, 2001, all patients were off study. (Although one patient resumed treatment per above note)

Table IV Pharmacokinetic parameters of ANGIOZYME after bolus subcutaneous administration.

		alma	20.00	chun2	100	a tran 2	300 %	calm2
		Z/III	III OC	g/m	TOOT	E III	II OOC	K/III
	Mean	\mathbf{SD}	Mean	SD	Mean	SD	Mean	SD
Day I Cmax (ug/mL)	0.43	0.07	0.62	0.28	3.17	69.0	8.91	2.93
AUCt (ug*hr/mL)	2.60	1.43	6.04	2.70	34.14	2.28	89.87	21.68
AUCinf (ug*hr/mL)	4.40	90.0	7.99	1.66	37.51	1.91	101.57	13.47
t(1/2) (hr)	3.62	0.79	7.32	6.94	4.58	0.02	9.26	6.20
$CL/F(L/hr/m^2)$	2.24	0.08	3.73	0.92	2.96	0.61	2.99	0.43
Day 29 Cmax (ug/mL)	0.35	0.19	1.17	0.53	3.23	0.35	8.93	6.71
	2.11	1.31	7.29	1.16	31.87	1.91	119.42	65.84
AUCinf (ug*hr/mL)	3.38	1.31	8.54	2.46	33.61	2.16	132.73	67.82
t(1/2) (hr)	4.49	1.60	3.26	1.01	4.66	0.35	7.24	0.70
CL/F (L/hr/m²)	2.49	1.48	3.69	0.94	3.21	0.56	2.72	1.40

Table V: Human FLT DNAzyme and Substrate Sequence

Pos	Substrate	Seq ID No	DNAzyme	Seq ID No
17	UCCUCUCG G CUCCUCCC	1	GGGAGGAG GGCTAGCTACAACGA CGAGAGGA	1703
28	CCUCCCG G CAGCGGCG	2	CGCCGCTG GGCTAGCTACAACGA CGGGGAGG	1704
31	CCCCGGCA G CGGCGGCG	3	CGCCGCCG GGCTAGCTACAACGA TGCCGGGG	1705
34	CGGCAGCG G CGGCGGCU	4	AGCCGCCG GGCTAGCTACAACGA CGCTGCCG	1706
37	CAGCGGCG G CGGCUCGG	5	CCGAGCCG GGCTAGCTACAACGA CGCCGCTG	1707
40	CGGCGGCG G CUCGGAGC	6	GCTCCGAG GGCTAGCTACAACGA CGCCGCCG	1708
47	GGCUCGGA G CGGGCUCC	7	GGAGCCG GGCTAGCTACAACGA TCCGAGCC	1709
51	CGGAGCGG G CUCCGGGG	8	CCCCGGAG GGCTAGCTACAACGA CCGCTCCG	1710
59	GCUCCGGG G CUCGGGUG	9	CACCCGAG GGCTAGCTACAACGA CCCGGAGC	1711
65	GGGCUCGG G UGCAGCGG	10	CCGCTGCA GGCTAGCTACAACGA CCGAGCCC	1712
		11	GGCCGCTG GGCTAGCTACAACGA ACCCGAGC	1713
67	GCUCGGGU G CAGCGGCC			
70	CGGGUGCA G CGGCCAGC	12	GCTGGCCG GGCTAGCTACAACGA TGCACCCG	1714
73	GUGCAGCG G CCAGCGGG	13	CCCGCTGG GGCTAGCTACAACGA CGCTGCAC	1715
77	AGCGGCCA G CGGGCCUG	14	CAGGCCCG GGCTAGCTACAACGA TGGCCGCT	1716
81	GCCAGCGG G CCUGGCGG	15	CCGCCAGG GGCTAGCTACAACGA CCGCTGGC	1717
86	CGGGCCUG G CGGCGAGG	16	CCTCGCCG GGCTAGCTACAACGA CAGGCCCG	1718
89	GCCUGGCG G CGAGGAUU	17	AATCCTCG GGCTAGCTACAACGA CGCCAGGC	1719
95	CGGCGAGG A UUACCCGG	18	CCGGGTAA GGCTAGCTACAACGA CCTCGCCG	1720
98	CGAGGAUU A CCCGGGGA	19	TCCCCGGG GGCTAGCTACAACGA AATCCTCG	1721
108	CCGGGGAA G UGGUUGUC	20	GACAACCA GGCTAGCTACAACGA TTCCCCGG	1722
111	GGGAAGUG G UUGUCUCC	21	GGAGACAA GGCTAGCTACAACGA CACTTCCC	1723
114	AAGUGGUU G UCUCCUGG	22	CCAGGAGA GGCTAGCTACAACGA AACCACTT	1724
122	GUCUCCUG G CUGGAGCC	23	GGCTCCAG GGCTAGCTACAACGA CAGGAGAC	1725
128	UGGCUGGA G CCGCGAGA	24	TCTCGCGG GGCTAGCTACAACGA TCCAGCCA	1726
131	CUGGAGCC G CGAGACGG	25	CCGTCTCG GGCTAGCTACAACGA GGCTCCAG	1727
136	GCCGCGAG A CGGGCGCU	26	AGCGCCCG GGCTAGCTACAACGA CTCGCGGC	1728
140	CGAGACGG G CGCUCAGG	27	CCTGAGCG GGCTAGCTACAACGA CCGTCTCG	1729
142	AGACGGGC G CUCAGGGC	28	GCCCTGAG GGCTAGCTACAACGA GCCCGTCT	1730
149	CGCUCAGG G CGCGGGGC	29	GCCCGCG GGCTAGCTACAACGA CCTGAGCG	1731
151	CUCAGGGC G CGGGGCCG	30	CGGCCCG GGCTAGCTACAACGA GCCCTGAG	1732
156	GGCGCGGG G CCGGCGGC	31	GCCGCCGG GGCTAGCTACAACGA CCCGCGCC	1733
160	CGGGGCCG G CGGCGGCG	32	CGCCGCCG GGCTAGCTACAACGA CGGCCCCG	1734
163	GGCCGGCG G CGGCGAAC	33	GTTCGCCG GGCTAGCTACAACGA CGCCGGCC	1735
166	CGGCGGCG G CGAACGAG	34	CTCGTTCG GGCTAGCTACAACGA CGCCGCCG	1736
170	GGCGGCGA A CGAGAGGA	35	TCCTCTCG GGCTAGCTACAACGA TCGCCGCC	1737
178	ACGAGAGG A CGGACUCU	36	AGAGTCCG GGCTAGCTACAACGA CCTCTCGT	1738
182	GAGGACGG A CUCUGGCG	37	CGCCAGAG GGCTAGCTACAACGA CCGTCCTC	1739
188	GGACUCUG G CGGCCGGG	38	CCCGGCCG GGCTAGCTACAACGA CAGAGTCC	1740
191	CUCUGGCG G CCGGGUCG	39	CGACCCGG GGCTAGCTACAACGA CGCCAGAG	1741
196	GCGGCCGG G UCGUUGGC	40	GCCAACGA GGCTAGCTACAACGA CCGGCCGC	1742
199	GCCGGGUC G TUGGCCGG	41	CCGGCCAA GGCTAGCTACAACGA GACCCGGC	1743
203	GGUCGUUG G CCGGGGGA	42	TCCCCCGG GGCTAGCTACAACGA CAACGACC	1744
212	CCGGGGGA G CGCGGGCA	43	TGCCCGCG GGCTAGCTACAACGA TCCCCCGG	1745
214	GGGGGAGC G CGGGCACC	44	GGTGCCCG GGCTAGCTACAACGA GCTCCCCC	1746
218	GAGCGCGG G CACCGGGC	45	GCCCGGTG GGCTAGCTACAACGA CCGCGCTC	1747
220	GCGCGGGC A CCGGGCGA	46	TCGCCCGG GGCTAGCTACAACGA GCCCGCGC	1748
225	GGCACCGG G CGAGCAGG	47	CCTGCTCG GGCTAGCTACAACGA CCGGTGCC	1749
229	CCGGGCGA G CAGGCCGC	48	GCGGCCTG GGCTAGCTACAACGA TCGCCCGG	1750

236		****			
238 CAGGCCGG G UCCACCU 51 GAGGCGG G GCCUCACC 52 GGTGAGGG GCTAGCTACAACGA GAGGCGG C 1754 241 GCGGUGG G CUCACCAU 52 GGTGAGGG GCTAGCTACAACGA GAGGCGG C 1754 243 GCGGUGG C CUCACCAU 51 ANGGGGG G GCGAGGGG GGTAGCTACAACGA GAGGCGG GTAGCTACAACGA GAGGCGG C 1757 250 CGCUCACC A UGGUCAGC 55 GCTGACCA GCCTAGCTACAACGA GAGGCGG GTAGCTACAACGA TAGCCACA 1758 253 UCACCAUG G UCACUGGG 55 GCTGACCA GCCTAGCTACAACGA CATGGTACA ATACCAGGG GUCAGCA GCCAGGGG 1759 260 GGUCAGCU A CUGUGGG 59 CCCCGGTG GGCTAGCTACAACGA AGCTGACCA 1759 266 CUACUGGG A CACCGGGG 59 CCCCGGTG GGCTAGCACACACA AGCTCACA 26CTAGCTACAACACA CCCCGGTTA 1761 266 CUACUGGG A CCCCGGGG 59 CCCCGGTG GGCTAGCTACAACACA CCCCGGTTA 1762 274 ACACCGGG G UCCUGGUG 60 GACCCCGG GGCTAGCTACAACACA AGCCGCCA 26CTAGCTACAACACAA AGCCGCCA 1762 2762 28C GUCUGUGU G CCCGCUG 65 GAGCGCGG GGCTAGCTACAACAAAAAAAAAAAAAAAAAA	233	GCGAGCAG G CCGCGUCG	49	CGACGCGG GGCTAGCTACAACGA CTGCTCGC	1751
241 GCCGCGUC G CGCUCACC 52 GGTGAGCG GGCTAGCTACAACGA GAGCGGC 1754 243 CGCGUCAC CAUGGUC 53 ANGGTGAG GGCTAGCTACAACGA GGGACGGC 1755 244 UCGCGCUCA CCAUGGUC 54 GACCATGG GGCTAGGTACAACGA GGGACGGC 1755 255 CGCUCACC A UGGUCACC 55 GCTGACCA GGCTAGCTACAACGA GAGCGCA 1757 253 UCACCAUG G UCACCUAC 56 GTGGCTAG GGCTAGGTACAACGA GAGCGCA 1757 254 UCACCAUG G UCACCUAC 56 GTGGCTAG GGCTAGCTACAACGA CATGGCG 1758 255 CAUGGUCA G CUACUGGG 57 CCCAGTAG GGCTAGCTACAACGA CACCACCA 1759 266 GUCAGCU A CUGGGACA 58 TGTCCCAG GGCTAGCTACAACGA AGCTCACC 1756 266 CUACUGGG A CACCGGGG 59 CCCCGGTG GGCTAGCTACAACGA AGCTCACC 1762 266 CUACUGGG A CACCGGGG 59 CCCCGGTG GGCTAGCTACAACGA CCCAGTAG 1761 274 ACACCGGG G UCCUGCUG 61 CAGCAGGA GGCTAGCTACAACGA CCCCAGTA 1762 279 GGGUCCU G CUGGGGC 62 GGCACAG GGGCTAGCTACAACGA AGCACCAC 1762 280 GUCUGCU G UGCGCGU 63 AGCGCG GGCTAGCTACAACGA AGCACCAC 1764 281 GUCUGCU G CUGCUGC 64 GCAGCAGG GGCTAGCTACAACGA AGCACCAC 1766 286 GUCUGCU G CUCCAGC 66 GCAGCAGG GGCTAGCTACAACGA ACACCACA 1766 286 GUCUGCU G CUCCAGC 66 CTAGCAG GGCTAGCTACAACGA ACACCACA 1766 286 GUCUGCU G CUCCAGC 66 CTAGCAG GGCTAGCTACAACGA ACACCACA 1766 286 CUGUGGC G CUGCUCAG 66 CTAGCAG GGCTAGCTACAACGA ACACCACA 1766 287 GCCCCCC G CUCCAGC 67 CAGCTAGA GGCTAGCTACAACGA ACACCACA 1766 288 CUGUGCU G CUUCUCAC 70 GTGAGAG GGCTAGCTACAACGA AGCACACA 1769 299 GCUCAGCU G CUUCUCAC 70 GTGAGAG GGCTAGCTACAACGA AGCACACA 1769 299 GCUCAGCU G CUUCUCAC 70 GTGAGAG GGCTAGCTACAACGA AGCACAC 1779 299 GCUCAGCU G CUUCUCAC 70 GTGAGAG GGCTAGCTACAACGA AGCACAC 1779 290 GCUCAGGG A UCUAGAGU 71 AGATCCTG GGCTAGCTACAACGA AGCACAC 1771 315 CUCACAGG A UCUAGUUC 72 GAACCAGA GGCTAGCTACAACGA AGCACAC 1771 316 UGCUUCA C C AGGGACC 70 GTGAGAG GGCTAGCTACAACGA AGCACC 1771 317 CACCAGG A UCUAGAGA 71 AGATCCTG GGCTAGCTACAACGA					
243 CGGCUCGC G CUCACCAU 53 ATTGGTGG GG CUCACCAU 54 GACCATGG GGCTAGCTACAGGG GGGGGGG 1755 247 UCGGGCUC A CCAUGGUC 54 GACCATGG GGCTAGCTACAGGG GGTGAGGGGGT 1757 250 GOUCACC A UGGUCAC 56 GTAGCTGA GGTAGCTACAAGGA CATGGTGA 1758 253 UCACCAUG G UCACUGGG 55 GTAGCTGA GGCTAGCTACAAGGA CATGGTGA 1758 260 GGUCAGUA G CUACUGGG 57 CCCAGTGG GGCTAGCTACAAGGA ACCGTGC 1750 266 GUCAGUG A CACGGGGG 58 CCCCAGTG GGCTAGCTACAAGGA ACCGTGC 1760 266 ACUAGGGA C ACCGGGG C 58 CCCCAGTG GGCTAGCTACAACGA ACCGTTGC 1761 266 ACUAGGGA C ACCGGGGG C 60 GACCCCGG GGCTAGCTACAACGA CCCAGTGT 1762 274 ACACCGGG G UCCUGCUG 61 CAGCAGGA GGCTAGCTACAACGA ACCGACC 1764 282 GUCUGCU G UGCGCGCU 64 GCACAGG GGCTAGCTACAACGA ACCACAGA 1767 284 CUUCUGCU G CCCCUCAG 66 CTAGACGG GGCTAGCTACAACGA ACCACAGA 1767 288 CUUCUGCU G CUUCUCAC 65 GACACAG GGCTAGCTACAACGA ACCACAGA 1768 289 CUUCUCAC G CUUCUCAC 69 CAGACAG GGCTAGCTACAACGA ACCACAGA 1773 303 ACCUGCUC A CUUCUCAC 70 GTAGACAGA GGCTAACCTACAACGA ACCACAGA 1771 310	238				
247 UCGCGCUC A CCAUGGUC 54 GACCATGG GGCTAGCTACAACGA GAGCGCGA 1756 250 GCUCACC A UGGUCAGC 55 GCTGACCA GGCTAGCTACAACGA GGTAGAGG 1757 253 UCACCAUG G UCAGCUAC 56 GTGACCA GGCTAGCTACAACGA GGTAGAGG 1757 253 UCACCAUG G CUACUGGG 57 CCCAGTAG GGCTAGCTACAACGA CATGGTGA 1758 257 CAUGGUCA G CUACUGGG 57 CCCAGTAG GGCTAGCTACAACGA TGACCATG 1759 260 GGUCAGCU A CUGGGGACA 58 TGTCCCAG GGCTAGCTACAACGA TGACCATG 1759 260 GGUCAGCU A CUGGGGACA 58 TGTCCCAG GGCTAGCTACAACGA TGACCATG 1759 266 CUACUGGGA CACCAGGGG 59 CCCGGTG GGCTAGCTACAACGA CCCAGTAG 1761 268 ACUGGGAC A CCGGGGGU 60 GACCCGGGG GGCTAGCTACAACGA CCCAGTAG 1762 274 ACACCGGG G UCCUGCU 6 CACCAGGGA GGCTAGCTACAACGA CCCAGTAG 1762 279 GGGGUCCU G CUGUGGG 62 CGCGCACAG GGCTAGCTACAACGA ACCAGGAC 1762 282 GUCCUGCU G UGGGCGCU 63 AGCGGCA GGCTAGCTACAACGA AGCAGGAC 1765 284 CCUGCUGU G CGCGCUGC 64 GCAGCGCG GGCTAGCTACAACGA ACCAGGAC 1765 286 UGCUGGCC G CUGCUCC 65 GACCAGCG GGCTAGCTACAACGA ACCAGGAC 1765 286 UGCUGCUC G CUCCUCAG 66 CTGAGCAG GGCTAGCTACAACGA ACCAGCAG 1766 287 GCUGCUGCU G CUCCUCAG 67 CACGTGAG GGCTAGCTACAACGA ACCAGCAC 1767 299 GCUCAGCU G UCUCUCC 69 GAACCAGAG GGCTAGCTACAACGA ACCAGCAC 1767 299 GCUCAGCU G UCUCUCC 69 GAACCAGA GGCTAGCTACAACGA ACCAGCAC 1769 299 GCUCAGCU G UUCUCAC 70 GTGAGCAG GGCTAGCTACAACGA ACCAGCAC 1770 303 AGCUGUCU G CUUCUCC 70 GTGAGAAG GGCTAGCTACAACGA ACCAGCAC 1772 310 UGCUUCU A CAGGGUU 71 AGATCTC GGCTAGCTACAACGA ACCAGCAC 1772 3115 CUCACAGG A UCUACAGU 71 AGATCTC GGCTAGCTACAACGA ACCAGCAC 1772 3126 UACAGGGU G UUCACAGC 70 GTGAGAAG GGCTAGCTACAACGA ACCAGCAC 1772 3136 UACAGGUU G UUCACGC 70 GTGAGAAG GGCTAGCTACAACGA ACCAGCAC 1772 3137 CUCACAGG A UCUACAGU 71 AGATCTC GACGAAGAG ACCAGCAC 1772 3138 AGUUCAAA UUCAGGUU 71 AGATCTC GGCTAGCTACAACGA ACCTGACC 1772 314 AUUAAAAG 71 ACCAGCA 71 AGATCAGA GGCTAGCTACAACGA CTGTAACA 1772 315 CUCACAGG A UCAAGAGA 71 AAACCAGA GGCTAGCTACAACGA CTGTAACA 1773 316 AUGAUCAA A UUAAAAGA 75 TCTTTTAA GGCTAGCTACAACGA CTTTTAAT 1776 317 CACCAGCA A CUCAGGG 61 GCTAGCTACAACGA CTTTTAAT 1776 318 AUUAAAAG 71 ACCAGAGCA 71 AGATCAT 1776 319 AAACCAGA 71 AGATCAA 71 AAACCAGA 71 TTTAAACCA 7	241				
COUCHACE A UGGUCAGE 55 GCTGACCA GGCTAGCTACAACGA GGTGAGC 1757	243	CGCGUCGC G CUCACCAU	53	<u> </u>	1755
UCACCAUG G UCAGCUAC 56 GTAGCTGA GGCTAGCTACAACGA CATGGTGA 1758 1750	247	UCGCGCUC A CCAUGGUC	54		
257 CAUGGUCA G CUACUGGG 57 CCCAGTAG GGCTAGCTACAACGA TGACCATC 1759 260 GGUCAGCU A CUGGGACA 58 TGTCCCAG GGTAGCTACAACGA CACATC 1760 266 CAUCUGGGA C ACACGGGG 59 CCCCGGTG GGCTAGCTACAACGA CCCAGTG 1761 268 ACUGGGAC A CCGGGGUC 60 GACCCGG GGCTAGCTACAACGA CCCAGTG 1762 274 ACACCGGG G UCCUGCUG 61 CAGCAGGA GGCTAGCTACAACGA CCCAGT 1762 274 ACACCGGG G UCCUGCUG 61 CAGCAGGA GGCTAGCTACAACGA CCCGGTGT 1762 279 GGGGUCCU G CUGUGCGC 62 GGCACAG GGCTAGCTACAACGA AGGACC 1764 282 GUCCUGCU G UGCCGCU 63 AGCGCGA GGCTAGCTACAACGA AGGACC 1764 284 CCUGCUUG G CCCGCUCC 64 GCAGCGG GGCTAGCTACAACGA AGGACGA 1765 286 UCGUGGCG C CCCCUCC 65 GAGCAGG GGCTAGCTACAACGA AGGACGA 1767 288 CUGUGCGC G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA AGACGAC 1768 291 UGCGCGCU G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCACAGCA 1769 292 GCUCCLOC C CUGUCUCAC 68 CAGACAG GGCTAGCTACAACGA GACCAGCA 1769 293 GCUCCLOC C CUGUCUCC 69 GAAGCAG GGCTAGCTACAACGA AGGCCCA 1770 303 AGCUGULCU C C GGGGCU C GB CAGACAG GGCTAGCTACAACGA AGGCCCA 1771 303 AGCUGULCU C C GGGACCU C GGCCAGCAG GGCTAGCTACAACGA AGCCACGC 1771 310 UGCUCUC C ACGGALCU C C GGAACAG GGCTAGCTACAACGA AGCCACGC 1771 311 UGCUCUC C ACGGALCU C AGCACAG GGCTAGCTACAACGA AGCCACC 1771 312 CUCACAGG A UUCAGUUC 72 GAACTCAG GGCTAGCTACAACGA AGCCACC 1773 313 GGUUCAAA A UUCAAAGU 73 AACCTGAA GGCTAGCTACAACGA AGCACCT 1773 314 AUUAAAAG A UCCUAAAC 75 GGTAGCTACAACGA CGCACCAC 1773 315 CUCACAGG A UUCAAGUU 73 AACCTGAA GGCTAGCTACAACGA CTGAACCT 1773 316 AGGUCAAA A UUCAAAAG 75 TCTTTTAA GGCTAGCTACAACGA TTGAACCT 1773 317 AACCTGAA GCTAGCTACAACGA CTGACCAC 1773 318 GGUUCAAA A UUCAAAAG 75 TCTTTTAA GGCTAGCTACAACGA TTGAACT 1773 319 UGAACCGA C CAGACAC 80 GGCAGCACGA GACAACGA TTGAACCAC 1773 310 AGCCCCAC G CACAUCAU 81 ATCTTTAA GGCTAGCTACAACGA TCTGATC 1773 311 AUUAAAAG A UCCUAAAA 81 TCTTTAA GGCTAGCTACAACGA TCTGATC 1773 312 CACCACAC G CACAUCAU 81 ATCTTTAA GGCTAGCTACAACGA TCTGATC 1773 313 GGACCCCA G CACAUCAU 81 ATCTTTAA GGCTAGCTACAACGA TCTGATC 1773 314 AUUAAAAG C CCCACCAC 89 GTCCGTGG GGCTAGCTACAACGA TCTGATC 1773 315 CACCACCAC G CACACCA 81 GTCCTTTG GGCTAGCTACAACGA TCTGTGG 1783 316 CAC	250	CGCUCACC A UGGUCAGC	55	GCTGACCA GGCTAGCTACAACGA GGTGAGCG	1757
260 GGUCAGCU A CUGGGACA 58 TGTCCCAG GGCTAGCTACAACGA AGCTGAC 1760 266 CUACUGGG A CACCGGGG 59 CCCCGGTG GGCTACCAACGA CCCCAGTA 1761 268 ACUGGGAC A CACCGGGG 60 GACCCCGG GGCTAGCTACAACGA CCCCAGT 1762 274 ACACCGGG G UCCUGCUG 61 CAGCACGA GGCTAGCTACAACGA AGGACCCC 1763 279 GGGGCCU G CUGCACCAG GGCACAG GGCTAGCTACAACGA AGGACGC 1765 284 CCUGCUGU G CCGCCCC 64 GCAGCGG GGCTAGCTACAACGA ACACGCA 1766 286 UCGUGUGC 65 GAGCAGG GGCTAGCTACAACGA ACACCACA 1766 286 CUGUCUCA CUCUCACG 67 CAGCACAG GGCTAGCTACAACGA AGCACCAC 1769 296 GCUCCACA CUCUCACC 68 GCAGACAG GGCTAGCTACAACGA AGCACAGC 1772 303 AGCUGUCA G CUGCUCAC 70 GRAGACAG GGCTAGCTACAACGA	253	UCACCAUG G UCAGCUAC	56	GTAGCTGA GGCTAGCTACAACGA CATGGTGA	1758
266	257	CAUGGUCA G CUACUGGG	57	CCCAGTAG GGCTAGCTACAACGA TGACCATG	1759
268 ACUGGGAC A CCGGGGUC 60 GACCCCGG GGCTAGCTACAACGA GTCCCAGT 1762 274 ACACCGGG G UCCUGCUG 61 CAGCAGAG AGCTAGCTACAACGA AGCACCGT 1764 279 GGGGUCU G CUGUGCGC 62 GCGCACAG GGCTAGCTACAACGA AGCACCC 1764 282 GUCCUGCU G UGCGCGCU 63 AGCGCGA GGCTAGCTACAACGA AGCAGGAC 1765 284 CCUGCUGU G CGCUGCUC 65 GAGCAGCG GGCTAGCTACAACGA ACCACAGC 1766 286 UGCUGCG G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCACAGCA 1767 288 CUGUGCCG G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA ACGCACACACA 1767 291 UGCGCCCA G CUGUCUCC 68 GCAGACAG GGCTAGCTACAACGA AGCGCACA 1769 296 GCUCACCU G UCUCUCAC 69 GAAGCAGA GGCTAGCTACAACGA AGCGCACA 1770 303 AGCUGUCU G UUCUCAC 70 GTGAGAAG GGCTAGCTACAACGA AGCAGCTTAGACA 310 UGCUUCUC A CAGGAUCU 71 AGATCTAG AGCTACTACAACGA AGCAGCTTAGACTACACA 3115 CUCACAGG A UCUAGGUU 73 AACCTGAA GGCTAGCTACAACGA TAGATCCT 1773 3126 UUCACAGG A UCUAGAC 74 ATTTTGAA GGCTAGCTACAACGA CTGATCCT 1775 326 UAGUUCAG G UUCAAAAU 74 TATTTTAA GGCTAGCTACAA	260	GGUCAGCU A CUGGGACA	58	TGTCCCAG GGCTAGCTACAACGA AGCTGACC	1760
274 ACACCGGG G UCCUGCUG 61 CAGCAGGA GGCTAGCTACAACGA CCCGGTGT 1763 279 GGGGUCUU G UGUGCGCU 62 GGCACAG GGCTAGCTACAACGA AGGACCC 1764 282 GUCCUGCU G UGCGCGCU 63 AGCGCGCA GGCTAGCTACAACGA AGCAGGA 1765 284 CCUGCUGU G CGCGCUCC 64 GCAGCGCG GCTAGCTACAACGA AGCAGCA 1766 286 UGCUGUGC G CGCUGCUC 65 GAGCAGCG GCTAGCTACAACGA GCACACACA 1767 288 CUGUGCG G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCGCACACA 1769 291 UGCGCGCU G CUCCAGC 66 CTGAGCAGA GGCTAGCTACAACGA AGCAGCACACACA 1769 296 GCUGCUCA G CUGUCUCC 69 GAGACAG GGCTAGCTACAACGA AGCTAGC 1770 299 GCUCACCU G CUGUCUCA 70 GAAGCAG GGCTAGCTACAACGA AGCTAGC 1771 310 UGCUUCUC A CAGGAUCU 71 AGATCTG GGCTAGCTACAACGA AGCAGCA 1773 315 CUCACAGG A UCUAGACU 71 AGATCTGA GGCTAGCTACAACGA AGCAGCA 1773 320 AGGAUCUA G UUCAGAAU 72 AAACTCAGA GCTAGCTACAACGA CTGTGCA 1773 321 UAGUUCAG G UUCAAAAU 74 ATTTTAAA GGCTACAACGA CTGAACTA <td>266</td> <td>CUACUGGG A CACCGGGG</td> <td>59</td> <td>CCCCGGTG GGCTAGCTACAACGA CCCAGTAG</td> <td>1761</td>	266	CUACUGGG A CACCGGGG	59	CCCCGGTG GGCTAGCTACAACGA CCCAGTAG	1761
279 GGGGUCU G CUGUGCGC 62 GCGCACAG GGCTAGCTACAACGA AGGACCC 1764 282 GUCCUGCU G UGCGCGCU 63 AGGGGCA GGCTAGCTACAACGA AGCAGGAC 1765 284 CCUGCUGU G CGCGCUGC 64 GCAGCGC GGCTAGCTACAACGA ACAGCAGCA 1766 286 UGCUGUGC G CGCUCCAG 65 GAGCAGC GGCTAGCTACAACGA ACAGCAGCA 1767 288 CUGUGCGC G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCCAGCA 1768 291 UGCGCGCU G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCGCACAG 1769 292 UGCGCCCU G CUGUCUCC 68 GCAGACAG GGCTAGCTACAACGA AGCGCGCA 1769 295 GCUCACCU G UCUCUCCC 69 GAAGCAGA GGCTAGCTACAACGA AGCGCGCA 1771 303 AGCUGUCU C ACAGGAUCU 71 AGATCCTG GGCTAGCTACAACGA AGCAGCT 1772 310 UGCUUCUC A CAGGAUCU 72 GAACTAGA GGCTAGCTACAACGA AGCAGCT 1773 315 CUCACAGG A UCUAGUUC 72 GAACTAGA GGCTAGCTACAACGA AGCAGCT 1773 320 AGGAUCUA G UUCAGGUU 73 AACCTGAA GGCTAGCTACAACGA CTGTGAAC 1774 321 AGGUCUCAG G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA CTGTGAAC 1775 333 GGUUCAAA A UUAAAAAGA 75 TCTTTTAA GGCTAGCTACAACGA CTGAACCT 1776 341 AUUAAAAG A UCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTATAAT 1778 348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA CTGAACTA 1779 353 UGAACUGA G UUUAAAAAG 78 CTTTTAAA GGCTAGCTACAACGA CTTTTAAT 1778 364 UAAAAAGC A CCCAGCAC 79 GCTGGGTG GGCTAGCTACAACGA CTTTTAAT 1780 365 UUUAAAAG G CACCAACC 79 GCTGGTG GGCTAGCTACAACGA CTTTTTAA 1781 364 UAAAAAGG A CCCAGACC 80 GTGCTGG GGCTAGCTACAACGA CTTTTTAA 1781 365 UGAACCUGA A CUGAGCA 81 ATGATTGT GGCTAGCTACAACGA CTTTTTAA 1781 366 UAAAAAGG A CCCAGACC 80 GTGCTGG GGCTAGCTACAACGA GCCTTTTTA 1782 367 GCACCCAG C CACACACU 81 ATGATTGA GGCTAGCTACAACGA GCCTTTTTA 1782 369 GGCACCCAG C CACACACU 81 ATGATTGA GGCTAGCTACAACGA GCCTTTTTA 1784 371 CACCCAGC A CAUCAUGC 82 GCTGGTG GGCTAGCTACAACGA GCCTTTTTA 1786 372 CCAGGACA A CAUCAUGC 83 GTGCTGG GGCTAGCTACAACGA GCCTTTTTA 1786 373 CCCAGCAG A CA	268	ACUGGGAC A CCGGGGUC	60	GACCCCGG GGCTAGCTACAACGA GTCCCAGT	1762
282 GUCCUGCU G UGCGCGCU 63 AGCGCGC GGCTAGCTACAACGA AGCAGGAC 1765 284 CCUGCUGU G CGCUGCUC 64 GCAGGGCG GGCTAGCTACAACGA ACAGCAGG 1766 286 UGCUGUGC G CGCUGCUC 65 GAGCAGCG GGCTAGCTACAACGA GCACAGCA 1768 288 CUGUGCGC G CUGCUCAG 66 CTGAGCAG GGCTACCAACGA AGCGCACAG 1768 291 UGCGCGCU G CUCAGCUG 67 CAGCTGAG GGCTAGCTACAACGA AGCGCCAC 1770 296 GCUCAGCU G CUUCUCAC 68 GCAGACAG GGCTAGCTACAACGA AGCGACGT 1771 303 AGCUGUCU G CUUCUCAC 70 GTGAGAAG GGCTAGCTACAACGA AGCAGCT 1772 310 UGCUUCUC A CAGGAUCU 71 AGATCCTG GGCTAGCTACAACGA AGCAGCT 1773 3120 AGGAUCUA G UUCAGAGUU 72 GAACCAGA GGCTAGCTACAACGA CTGTGAA 320 AGGAUCUA G UUCAAAAU 74 ATTTTAAA AGCTGACAAGA ATTTGAACT 1775 324 UAGUAAAA 74 ATTTTAAA GGCTAGCTACAACGA CTGTACAT 1776 333 GGUCCAAA A UUAAAAGA 75 CTTTTAAA GGCTAGCTACAACGA CTTTTAAT 1778 348 GAUCUGA AUUAAAAGA 75 CTTTTAAA	274	ACACCGGG G UCCUGCUG	61	CAGCAGGA GGCTAGCTACAACGA CCCGGTGT	1763
284 CCUSCUGU G CGCGUGCC 64 GCAGCGC G GGCTAGCTACAACGA ACAGCAGG 1766 286 UGCUGUGC G CUGCUCAG 65 GAGCAGCG GGCTAGCTACAACGA GCACAGCA 1767 288 CUGUGCG G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCGCACAG 1768 291 UGCGGCU G CUCAGCUG 67 CAGCTGAG GGCTAGCTACAACGA AGCGCCA 1769 296 GCUGCUCA G CUGUCUC 68 GCAGACAG GGCTAGCTACAACGA AGCTGACC 1770 299 GCUCAGCU G UCUCUCAC 70 GTAGAGAG GGCTAGCTACAACGA AGCTGACC 1771 303 AGCUGUCU G CUUCUCAC 70 GTAGAGAG GGCTAGCTACAACGA AGCTGACT 1772 310 UGCUUCUC A CAGGAUCU 71 AGATCTG GGCTAGCTACAACGA AGCTTAGAT 1773 315 CUCACAGG A UCUAGGUU 72 GAACTAGA GGCTAGCTACAACGA CTGTAGG 1774 320 AGGAUCUA G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA TGGAACTA 1776 333 GGUUCAAAA 74 ATTTTAA GGCTAGCTACAACGA TCAGATCA 1777 341 AUUAAAAG 75 TCTTTAAA GGCTAGCTACAACGA TCAGTTCA 1777 342 UUUAAAAG 76	279	GGGGUCCU G CUGUGCGC	62	GCGCACAG GGCTAGCTACAACGA AGGACCCC	1764
286 UGCUGUGC G GCUGUGCC 65 GAGCAGCG GGCTAGCTACAACGA GCACAGCA 1767 288 CUGUGCGC G CUGCUCAG 66 CTGAGCAG GGCTAGCTACAACGA GCGCCACA 1769 291 UGCGCGCU G CUCAGCUG 67 CAGCTGAG GGCTAGCTACAACGA AGCGCGCA 1779 299 GCUCAGCU G UCUGCUC 69 GAAGCAG GGCTAGCTACAACGA AGCTGAC 1771 303 AGCUGUCU G CUUCUCAC 70 GTGAGAGA GGCTAGCTACAACGA AGCAGCT 1772 310 UGCUCUCA AGATCCTG GTGAGCAGA GGCTAGCTACAACGA AGCAGCT 1773 315 CUCACAGGA UUCAGGUU 71 AGATCCTGA GGCTAGCTACAACGA CTGTTAG 326 UAGUUCAG UUCAAAAGA 74 ATTTTAAA GGCTAGCTACAACGA CTGAGAT 1775 341 AUAAAAGA A UCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTTAAT 1778 342 GAACCUGA A UUAAAAGA 78	282	GUCCUGCU G UGCGCGCU	63	AGCGCGCA GGCTAGCTACAACGA AGCAGGAC	1765
288 CUGUGCGC G CUGUCLAG 66 CTGAGCAG GGCTAGCTACAACGA GCCCACAG 1768 291 UGCGCGCU G CUCAGCUG 67 CAGCTGAG GGCTAGCTACAACGA AGCGCGCA 1769 296 GCUGCUCA G CUGUCUC 68 GCAGACAG GGCTAGCTACAACGA AGCGCAGC 1771 303 AGCUGUCU G CUUCUCAC 70 GTGAGAAG GGCTAGCTACAACGA AGAGCAGC 1772 310 UGCUUCUC A CAGGAUCU 71 AGATCAG GGCTAGCTACACAGA AGAGAGCA 1773 315 CUCACAGG A UCUAGUU 72 GAACTAG GGCTAGCTACACAGA AGAGACCA 1775 326 UAGUCAG G UUCAAAAU 74 ATTTGAA GGCTAGCTACACGA CTGAACTA 1776 341 AULAAAGA A UCAGAGUU 77 AAACTCAG GGCTAGCTACACAGA CTTTAAT 1778 348 GAUCUGA A UUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA CTTTTAAA 1778 352 UUUAAA	284	CCUGCUGU G CGCGCUGC	64	GCAGCGCG GGCTAGCTACAACGA ACAGCAGG	1766
291 UGCGCGCU G CUCAGCUG 67 CAGCTGAG GGCTAGCTACAACGA AGCGCGCA 1769 296 GCUGCUCA G CUGUCUGC 68 GCAGACAG GGCTAGCTACAACGA TGAGCAACG 1770 299 GCUCAGCU G UCUCCAC 69 GAAGCAGA GGCTAGCTACAACGA AGCTGAGC 1771 303 AGCUGUCU G CUUCUCAC 70 GTGAGAAG GGCTAGCTACAACGA AGCAAGCA 1772 310 UGCUCUCA C CAGGAUCU 71 AGATCTG GGCTAGCTACAACGA CAGAAGCA 1773 315 CUCACAGG A UCUAGUUC 72 GAACTAGA GGCTAGCTACAACGA CTGTGAG 1774 320 AGGAUCUA G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA CTGTAGACTA 1775 326 UAGUCAG G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA CTTTAAT 1776 341 AUUAAAAG A UCCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTTAAT 1777 341 AUUAAAAG A UCCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA TCAGGACTTCA 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAA 1780 362 UUUAAAAG C CCCAGCA 80 GTGCTGGG GGCTAGCTACAACGA TCTATTAA 1781 364	286	UGCUGUGC G CGCUGCUC	65	GAGCAGCG GGCTAGCTACAACGA GCACAGCA	1767
296 GCUGCUCA G CUGUCUGC 68 GCAGACAG GCTAGCTACAACGA TGAGAGG 1770 299 GCUCAGCU G UCUGCUUC 69 GAAGCAGA GGCTAGCTACAACGA AGCTGAGC 1771 303 AGCUGUCU G CUUCUCAC 70 GTGAGAAG GGCTAGCTACAACGA AGCAGGCT 1772 310 UGCUCUCA CAGGAUCU 71 AGATCCTG GGCTAGCTACAACGA AGAGAGCA 1773 315 CUCACAGG A UCUAGGUU 73 AACCTGAA GGCTAGCTACAACGA CCTGTGAG 1774 320 AGGAUCUA G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA CTGAGACC 1775 333 GGUCAAA UUCAAAAG 75 TCTTTAA GGCTAGCTACAACGA CTTTTAAT 1777 348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA CTATTTAA 1780 362 UUUAAAAG C CCCCAGCA 79 GCTGGTG GGCTAGCTACAACGA CTATTTAA 1781 364	288	CUGUGCGC G CUGCUCAG	66	CTGAGCAG GGCTAGCTACAACGA GCGCACAG	1768
299 GCUCAGCU G UCUGCUC 69 GAAGCAGA GGCTAGCTACAACGA AGCTGAGC 1771 303 AGCUGUCU G CUUCUCAC 70 GTGAGAAG GGCTAGCTACAACGA AGACAGCT 1772 310 UGCUUCUC A CAGGAUCU 71 AGATCTG GGCTAGCTACAACGA AGACAGCA 1773 315 CUCACAGG A UCUAGUUC 72 GAACTAGA GGCTAGCTACAACGA CCTGTGAG 1774 320 AGGAUCUA G UUCAGGUU 73 AACCTGAA GGCTAGCTACAACGA TTGAACTA 1776 326 UAGUUCAG G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA CTGAACTA 1776 333 GGUUCAAA A UUAAAAGA 75 TCTTTTAA GGCTACAACGA TTGAACTA 1777 341 AUUAAAAGA A UCAGAUU 77 AAACTCAG GGCTAGCTACAACGA TCAGTTCA 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTACAACGA TCAGTTCA 1780 362 UUUAAAAG G CACCCAGC 79 GCTGGGTG GGCTAGCAACGA CTCTTTAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGG GGCTAGCAACGA GCTGTTTA 1782 369 GGCACCA G CACAUCAU 81 ATGATGT GGCTACAACGA GCTGGGTG 1783 371 <td>291</td> <td>UGCGCGCU G CUCAGCUG</td> <td>67</td> <td>CAGCTGAG GGCTAGCTACAACGA AGCGCGCA</td> <td>1769</td>	291	UGCGCGCU G CUCAGCUG	67	CAGCTGAG GGCTAGCTACAACGA AGCGCGCA	1769
303	296	GCUGCUCA G CUGUCUGC	68	GCAGACAG GGCTAGCTACAACGA TGAGCAGC	1770
310	299	GCUCAGCU G UCUGCUUC	69	GAAGCAGA GGCTAGCTACAACGA AGCTGAGC	1771
315	303	AGCUGUCU G CUUCUCAC	70	GTGAGAAG GGCTAGCTACAACGA AGACAGCT	1772
320 AGGAUCUA G UUCAGGUU 73 AACCTGAA GGCTAGCTACAACGA TAGATCCT 1775 326 UAGUUCAG G UUCAAAAU 74 ATTTTGAA GGCTAGCTACAACGA CTGAACTA 1776 333 GGUUCAAA A UUAAAAGA 75 TCTTTTAA GGCTAGCTACAACGA CTTTTAAT 1777 341 AUUAAAAG A UCCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTTTAAT 1778 348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA TCAGTACCA 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA TCAGTTCA 1780 362 UUUAAAAG G CACCCAGC 79 GCTGGGT GGCTAGCTACAACGA CTTTTAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA GCCTTTTA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGT GGCTAGCTACAACGA GCCTGGTG 1783 371 CACCAGCA C AUCAUGCA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 373 CCCAGCAC A UCAUGCA 83 TTGCATGA GGCTAGCTACAACGA GTGTGCT 1786 378 CACAUCAU G CAAGCAG 84 TGCTGCTG GGCTAGCTACAACGA ATGATGTC 1787	310	UGCUUCUC A CAGGAUCU	71	AGATCCTG GGCTAGCTACAACGA GAGAAGCA	1773
326 UAGUUCAG G UUCAAAAU 74 ATTTGAA GGCTAGCTACAACGA CTGAACTA 1776 333 GGUUCAAA A UUAAAAGA 75 TCTTTTAA GGCTAGCTACAACGA TTTGAACC 1777 341 AUUAAAAG A UCCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTTTAAT 1778 348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA TCAGGATC 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA TCAGGATC 1779 362 UUUAAAAG G CACCCAGC 79 GCTGGGTG GGCTAGCTACAACGA CTATTTAAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA CTTTTAAA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGT GGCTAGCTACAACGA TCGGTGC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA TGGGTGC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GTGGTGC 1784 373 CCCAGCAC A UCAUGCA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GTGCTGGG 1785 378 CACAUCAU G CAAGCAG 85 CCTGCTTG GGCTAGCTACAACGA GTGCTGG 1787 382 UCAUGCAA G CAGGCAG 86 CTGGCTG GGCTAGCTACAACGA ATGATGTG 1787 383 CACAUCAU G CAAGCAG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 384 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA TTGCATGA 1788 395 CAGACCAG CAGCACAC 87 GTGTCTGG GGCTAGCTACAACGA TTGCATGA 1789 396 CAGACCAG CAGCACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1790 397 GGCCAGCA A CACUGCAU 88 ATGCATGG GGCTAGCTACAACGA CTGCTTGC 1790 398 GACACUGC A UCUCCAA 90 TGGAGGT GGCTAGCTACAACGA GTGTCGCC 1791 396 CAGACACG G CAUCUCCA 90 TGGAGGT GGCTAGCTACAACGA ATGGACTGC 1792 397 GACCAGAC A UCUCCAAU 91 ATTGGAGG GGCTAGCTACAACGA ATGGACT 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA ATGGACT 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA TTGGACT 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CCCUAAAA 95 TTTATGGG GGCTAGCTACAACGA TTTGGAC 1799 425 AGCAGCC A UAAAUGGU 94 ATGGGCTG GGCTAGCTACAACGA TTTGGAC 1799 426 AGCACCC A UAAAUGGU 96 ACCATTA GGCTAGCTACAACGA TTTTGGGC 1799 427 AGCACCC A UAAAUGGU 96 ACCATTA GGCTAGCTACAACGA TTTTTGGC 1799 428 AGCAGCCC A UAAAUGGU 97 AAAGACCA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCCAGG GGCTAGCTACAACGA CATTTATG 1800	315	CUCACAGG A UCUAGUUC	72	GAACTAGA GGCTAGCTACAACGA CCTGTGAG	1774
333 GGUUCAAA A UUAAAAGA 75 TCTTTTAA GGCTAGCTACAACGA TTTGAACC 1777 341 AUUAAAAG A UCCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTTTAAT 1778 348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA TCAGGATC 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA TCAGGATC 1780 362 UUUAAAAG G CACCCAGC 79 GCTGGGT GGCTAGCAACGA TCAGTTCA 1780 364 UAAAAGGC A CCCAGCAC 80 GTGCTGG GGCTAGCTACAACGA CCTTTTAAA 1781 365 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA GCCTTTTA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA GCTGGGTG 1783 371 CACCCAGCA A CUCAUGCC 82 GGCTAGTG GGCTAGCACACGA GTGGTGGT 1784 373 CCCAGCAC A UCAUGCA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UCCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GTGCTGGG 1785 378 CACAUCAU G CAAGCAG 84 TGCTTGCA GGCTAGCTACAACGA GATGTGCT 1786 378 CACAUCAU G CAAGCAG 85 CCTGCTTG GGCTAGCTACAACGA ATCATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA ATCATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCAACGA ATCATGTG 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA TTGCATGA 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCAACGA CTGCCTG 1790 393 GGCCAGAC A CUGCAUU 89 AGATGCAG GGCTAGCTACAACGA CTGGCCT 1790 394 GACACUG A UCUCCAA 90 TGAAGATG GGCTAGCTACAACGA ATGTGTCT 1792 395 GACACUG A UCUCCAA 91 ATTGGAGT GGCTAGCTACAACGA ATGTGTCT 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCCTGCA GGCTAGCTACAACGA ATTGGAGT 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCTG GGCTAGCTACAACGA TTGCAGCA 1796 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTGCACCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTGCCCCC 1796 422 GGCAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTGCCCCC 1797 425 AGCAGCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 422 GGCAAGAA G GCCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 423 CAUAAAUG G UCUUUGCC 98 GGCAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99	320	AGGAUCUA G UUCAGGUU	73	AACCTGAA GGCTAGCTACAACGA TAGATCCT	1775
341 AUUAAAAG A UCCUGAAC 76 GTTCAGGA GGCTAGCTACAACGA CTTTTAAT 1778 348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA TCAGGATC 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA TCAGGTCA 1780 362 UUUAAAAAG G CACCCAGC 79 GCTGGGTG GGCTAGCTACAACGA CTTTTAAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA CCTTTTAA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA TGGGTGC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA TGGGTGC 1783 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GCTGGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGTGGGT 1786 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GTGTGGCT 1786 378 CACAUCAU G CAAGCAG 85 CCTGCTTG GGCTAGCTACAACGA GTGTGGT 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCTG GGCTAGCTACAACGA ATGATGTG 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA ATGATGTG 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGCTTGC 1789 393 GGCCAGAC A CUGCAUU 89 AGATGCAG GGCTAGCTACAACGA CTGGCCTG 1790 394 GAGACAUC G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA GTCTGGCC 1791 395 CAGACAUC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA ATTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA ATTGTCTG 1792 405 CAUCUCCA A UCCCAAU 91 ATTGGAGA GGCTAGCTACAACGA ATTGTCTG 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCTGGA GGCTAGCTACAACGA ATTGGAGA 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCTGGA GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 422 GGCAAGCA G CCCCUAAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTCCCCCC 1796 426 GGGAAGCA G CCCAUAAA 95 TTTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 427 GGCAAGACA G CCCAUAAA 95 TTTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 428 GGCAAGAA G GCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTTTTGGC 1799 425 AGCAGCC A UAAAUGGU 99 ATTCCAGG GGCTAGCTACAACGA CATTTATG 1800	326	UAGUUCAG G UUCAAAAU	74	ATTTTGAA GGCTAGCTACAACGA CTGAACTA	1776
348 GAUCCUGA A CUGAGUUU 77 AAACTCAG GGCTAGCTACAACGA TCAGGATC 1779 353 UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA TCAGTTCA 1780 362 UUUAAAAG G CACCCAGC 79 GCTGGTG GGCTAGCTACAACGA CTTTTAAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA GCCTTTTA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA GCCTTTTA 1782 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GCTGGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGGCTGCA GGCTAGCTACAACGA GTGCTGGG 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA GTGCTGG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCTG GGCTAGCTACAACGA ATGATGTG 1787 384 GAAGCAG G CAAGACAC 87 GTGTCTG GGCTAGCTACAACGA TTGCATGA 1788 395 GAAGCAG CACAUCAU 88 ATGCATGG GGCTAGCTACAACGA CTGCTTG 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGCCTTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA ATGTTCTG 1792 397 GACCAUCCA A UGCAGGG 92 CCCCTGCA GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GATGTCTG 1792 398 GACACUGC A UGCAGGG 92 CCCCTGCA GGCTAGCTACAACGA GATGTCTG 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA ATTGGAGA 1795 425 AGCAGCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGCTGCT 1798 426 CAUAAAUG G CAGCCCAU 97 AAAGACCA GGCTAGCTACAACGA GGCTGCT 1798 427 GGCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCAGG GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCAGG GGCTAGCTACAACGA CATTTATG 1800	333	GGUUCAAA A UUAAAAGA	75	TCTTTTAA GGCTAGCTACAACGA TTTGAACC	1777
UGAACUGA G UUUAAAAG 78 CTTTTAAA GGCTAGCTACAACGA TCAGTTCA 1780 362 UUUAAAAG C CACCCAGC 79 GCTGGGTG GGCTAGCTACAACGA CTTTTAAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA GCCTTTTA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA TGGGTGCC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GCTGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGGTGGT 1786 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GTGTGTGT 1786 378 CACAUCAU G CAAGCAG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTC 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCTG GGCTAGCTACAACGA ATGATGTG 1787 384 UCAUGCAA G CAGGCCAG 86 CTGGCTG GGCTAGCTACAACGA TTGCATGA 1788 385 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA TTGCATGA 1789 391 CAGGCCAGA A CACUGCAU 88 ATGCATG GGCTAGCTACAACGA CTGCTTGC 1789 392 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 393 GGCCAGAC A CUGCCCAU 90 TGGAGATG GGCTAGCTACAACGA ATGTTCTG 1792 394 GACACUGC A UCUCCAA 91 ATTGGAGA GGCTAGCTACAACGA ATGTTCTG 1792 395 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA ATGGAGTT 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA ATGGAGTT 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCTG GGCTAGCTACAACGA ATTGGAGAT 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCTG GGCTAGCTACAACGA ATTGGAGA 1799 418 GGGGGGAA G CAGCCAU 94 ATGGGCT GGCTAGCTACAACGA TTCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCC 1796 422 GGCAGACA A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTCCCCC 1797 425 AGCAGCCC A UAAAUGGU 97 AAAGACCA GGCTAGCTACAACGA CTTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCAGG GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCAGG GGCTAGCTACAACGA CATTTATG 1800	341	AUUAAAAG A UCCUGAAC	76	GTTCAGGA GGCTAGCTACAACGA CTTTTAAT	1778
UUUAAAAG G CACCCAGC 79 GCTGGGTG GGCTAGCTACAACGA CTTTTAAA 1781 364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA GCCTTTTA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA TGGGTGCC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GCTGGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GTGCTGGT 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCTG GGCTAGCAACGA ATGATGTG 1788 386 GCAAGCAG C CCAGACAC 87 GTGTCTG GGCTAGCAACGA TTGCATGA 1788 387 CACGCAGC A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTCGC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA GTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCCTGCA GGCTAGCTACAACGA ATGGAGT 1794 407 UCUCCAAU G CAGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTGCACCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 422 GGCAGACA A UGGUCUU 97 AAAGACCA GGCTAGCTACAACGA TTCCCCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUGCC 98 GGCAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCCAGG GGCTAGCTACAACGA CATTTATG 1800	348	GAUCCUGA A CUGAGUUU	77	AAACTCAG GGCTAGCTACAACGA TCAGGATC	1779
364 UAAAAGGC A CCCAGCAC 80 GTGCTGGG GGCTAGCTACAACGA GCCTTTTA 1782 369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA TGGGTGCC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GCTGGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GATGTGCT 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA ATGATGTG 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA TTGCATGA 1788 391 CAGGCCAG A CACUGCAU 88 ATGCATG GGCTAGCTACAACGA CTGCTTGC 1789 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA CTGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GTGTCTG 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCTGCA GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTGGAGA 1795 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTCCCCC 1799 429 GCCCAUAAA UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCCAGG GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTCCAGG GGCTAGCTACAACGA CATTTATG 1800	353	UGAACUGA G UUUAAAAG	78	CTTTTAAA GGCTAGCTACAACGA TCAGTTCA	1780
369 GGCACCCA G CACAUCAU 81 ATGATGTG GGCTAGCTACAACGA TGGGTGCC 1783 371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GCTGGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GTGCTGGT 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA ATGATGTG 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA AGTGTCTG 1793 405 CAUCUCCA UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA AGTGTCTG 1794 407 UCUCCAAU G CAGGGGG 92 CCCCTGCA GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGCTG GGCTAGCTACAACGA TTCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TTCCCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA CATTTATG 1800	362	UUUAAAAG G CACCCAGC	79	GCTGGGTG GGCTAGCTACAACGA CTTTTAAA	1781
371 CACCCAGC A CAUCAUGC 82 GCATGATG GGCTAGCTACAACGA GCTGGGTG 1784 373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GATGTGCT 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA TTGCATGA 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA GCAGTGTC 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCTGCA GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA CATTTATG 1800	364	UAAAAGGC A CCCAGCAC	80	GTGCTGGG GGCTAGCTACAACGA GCCTTTTA	1782
373 CCCAGCAC A UCAUGCAA 83 TTGCATGA GGCTAGCTACAACGA GTGCTGGG 1785 376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GATGTGCT 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA TTGCATGA 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTCTCCC 1797 425 AGCAGCCC A UAAAUGGU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA CATTTATG 1800	369	GGCACCCA G CACAUCAU	81	ATGATGTG GGCTAGCTACAACGA TGGGTGCC	1783
376 AGCACAUC A UGCAAGCA 84 TGCTTGCA GGCTAGCTACAACGA GATGTGCT 1786 378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA TTGCATGA 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TGCTTCCC 1797 426 AGCAGCCC A UAAAUGGU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	371	CACCCAGC A CAUCAUGC	82	GCATGATG GGCTAGCTACAACGA GCTGGGTG	1784
378 CACAUCAU G CAAGCAGG 85 CCTGCTTG GGCTAGCTACAACGA ATGATGTG 1787 382 UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA TTGCATGA 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA GTCTCGCC 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCAACGA TGCTTCCC 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	373	CCCAGCAC A UCAUGCAA	83	TTGCATGA GGCTAGCTACAACGA GTGCTGGG	1785
UCAUGCAA G CAGGCCAG 86 CTGGCCTG GGCTAGCTACAACGA TTGCATGA 1788 386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TGCTTCCC 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	376	AGCACAUC A UGCAAGCA	84	TGCTTGCA GGCTAGCTACAACGA GATGTGCT	1786
386 GCAAGCAG G CCAGACAC 87 GTGTCTGG GGCTAGCTACAACGA CTGCTTGC 1789 391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA TTATGGGC 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	378	CACAUCAU G CAAGCAGG	85	CCTGCTTG GGCTAGCTACAACGA ATGATGTG	1787
391 CAGGCCAG A CACUGCAU 88 ATGCAGTG GGCTAGCTACAACGA CTGGCCTG 1790 393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	382	UCAUGCAA G CAGGCCAG	86	CTGGCCTG GGCTAGCTACAACGA TTGCATGA	1788
393 GGCCAGAC A CUGCAUCU 89 AGATGCAG GGCTAGCTACAACGA GTCTGGCC 1791 396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	386	GCAAGCAG G CCAGACAC	87	GTGTCTGG GGCTAGCTACAACGA CTGCTTGC	1789
396 CAGACACU G CAUCUCCA 90 TGGAGATG GGCTAGCTACAACGA AGTGTCTG 1792 398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	391	CAGGCCAG A CACUGCAU	88	ATGCAGTG GGCTAGCTACAACGA CTGGCCTG	1790
398 GACACUGC A UCUCCAAU 91 ATTGGAGA GGCTAGCTACAACGA GCAGTGTC 1793 405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	393	GGCCAGAC A CUGCAUCU	89	AGATGCAG GGCTAGCTACAACGA GTCTGGCC	1791
405 CAUCUCCA A UGCAGGGG 92 CCCCTGCA GGCTAGCTACAACGA TGGAGATG 1794 407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	396	CAGACACU G CAUCUCCA	90	TGGAGATG GGCTAGCTACAACGA AGTGTCTG	1792
407 UCUCCAAU G CAGGGGGG 93 CCCCCCTG GGCTAGCTACAACGA ATTGGAGA 1795 418 GGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	398	GACACUGC A UCUCCAAU	91	ATTGGAGA GGCTAGCTACAACGA GCAGTGTC	1793
418 GGGGGGAA G CAGCCCAU 94 ATGGGCTG GGCTAGCTACAACGA TTCCCCCC 1796 421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	405	CAUCUCCA A UGCAGGGG	92	CCCCTGCA GGCTAGCTACAACGA TGGAGATG	1794
421 GGGAAGCA G CCCAUAAA 95 TTTATGGG GGCTAGCTACAACGA TGCTTCCC 1797 425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	407	UCUCCAAU G CAGGGGG	93	CCCCCTG GGCTAGCTACAACGA ATTGGAGA	1795
425 AGCAGCCC A UAAAUGGU 96 ACCATTTA GGCTAGCTACAACGA GGGCTGCT 1798 429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	418	GGGGGAA G CAGCCCAU	94	ATGGGCTG GGCTAGCTACAACGA TTCCCCCC	1796
429 GCCCAUAA A UGGUCUUU 97 AAAGACCA GGCTAGCTACAACGA TTATGGGC 1799 432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	421	GGGAAGCA G CCCAUAAA	95	TTTATGGG GGCTAGCTACAACGA TGCTTCCC	1797
432 CAUAAAUG G UCUUUGCC 98 GGCAAAGA GGCTAGCTACAACGA CATTTATG 1800 438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	425	AGCAGCCC A UAAAUGGU	96	ACCATTTA GGCTAGCTACAACGA GGGCTGCT	1798
438 UGGUCUUU G CCUGAAAU 99 ATTTCAGG GGCTAGCTACAACGA AAAGACCA 1801	429	GCCCAUAA A UGGUCUUU	97	AAAGACCA GGCTAGCTACAACGA TTATGGGC	1799
	432	CAUAAAUG G UCUUUGCC	98	GGCAAAGA GGCTAGCTACAACGA CATTTATG	1800
445 UGCCUGAA A UGGUGAGU 100 ACTCACCA GGCTAGCTACAACGA TTCAGCCA 1802	438	UGGUCUUU G CCUGAAAU	99	ATTTCAGG GGCTAGCTACAACGA AAAGACCA	1801
TITION TO CONTROL TO THE PROPERTY OF THE P	445	UGCCUGAA A UGGUGAGU	100	ACTCACCA GGCTAGCTACAACGA TTCAGGCA	1802

145	CITCA A ATTO CO TTO A CITA A C	7.07	CEER CECA CCCER CCER CAR CAR CAREER	1002
448	CUGAAAUG G UGAGUAAG	101	CTTACTCA GGCTAGCTACAACGA CATTTCAG TTTCCTTA GGCTAGCTACAACGA TCACCATT	1803
461	AAUGGUGA G UAAGGAAA UAAGGAAA G CGAAAGGC	102	GCCTTTCG GGCTAGCTACAACGA TTTCCTTA	1805
468	AGCGAAAG G CUGAGCAU		ATGCTCAG GGCTAGCTACAACGA CTTTCGCT	1806
473	AAGGCUGA G CAUAACUA	104	TAGTTATG GGCTAGCTACAACGA TCAGCCTT	1807
475	GGCUGAGC A UAACUAAA	106	TTTAGTTA GGCTAGCTACAACGA GCTCAGCC	1808
478	UGAGCAUA A CUAAAUCU	107	AGATTTAG GGCTAGCTACAACGA TATGCTCA	1809
483	AUAACUAA A UCUGCCUG	108	CAGGCAGA GGCTAGCTACAACGA TTAGTTAT	1810
487	CUAAAUCU G CCUGUGGA	109	TCCACAGG GGCTAGCTACAACGA AGATTTAG	1811
491	AUCUGCCU G UGGAAGAA	110	TTCTTCCA GGCTAGCTACAACGA AGGCAGAT	1812
500	UGGAAGAA A UGGCAAAC	111	GTTTGCCA GGCTAGCTACAACGA TTCTTCCA	1813
503	AAGAAAUG G CAAACAAU	112	ATTGTTTG GGCTAGCTACAACGA CATTTCTT	1814
507	AAUGGCAA A CAAUUCUG	113	CAGAATTG GGCTAGCTACAACGA TTGCCATT	1815
510	GGCAAACA A UUCUGCAG	114	CTGCAGAA GGCTAGCTACAACGA TGTTTGCC	1816
515	ACAAUUCU G CAGUACUU	115	AAGTACTG GGCTAGCTACAACGA AGAATTGT	1817
518	AUUCUGCA G UACUUUAA	116	TTAAAGTA GGCTAGCTACAACGA TGCAGAAT	1818
520	UCUGCAGU A CUUUAACC	117	GGTTAAAG GGCTAGCTACAACGA ACTGCAGA	1819
526	GUACUUUA A CCUUGAAC	118	GTTCAAGG GGCTAGCTACAACGA TAAAGTAC	1820
533	AACCUUGA A CACAGCUC	119	GAGCTGTG GGCTAGCTACAACGA TCAAGGTT	1821
535	CCUUGAAC A CAGCUCAA	120	TTGAGCTG GGCTAGCTACAACGA GTTCAAGG	1822
538	UGAACACA G CUCAAGCA	121	TGCTTGAG GGCTAGCTACAACGA TGTGTTCA	1823
544	CAGCUCAA G CAAACCAC	122	GTGGTTTG GGCTAGCTACAACGA TTGAGCTG	1824
548	UCAAGCAA A CCACACUG	123	CAGTGTGG GGCTAGCTACAACGA TTGCTTGA	1825
551	AGCAAACC A CACUGGCU	124	AGCCAGTG GGCTAGCTACAACGA GGTTTGCT	1826
553	CAAACCAC A CUGGCUUC	125	GAAGCCAG GGCTAGCTACAACGA GTGGTTTG	1827
557	CCACACUG G CUUCUACA	126	TGTAGAAG GGCTAGCTACAACGA CAGTGTGG	1828
563	UGGCUUCU A CAGCUGCA	127	TGCAGCTG GGCTAGCTACAACGA AGAAGCCA	1829
566	CUUCUACA G CUGCAAAU	128	ATTTGCAG GGCTAGCTACAACGA TGTAGAAG	1830
569	CUACAGCU G CAAAUAUC	129	GATATTTG GGCTAGCTACAACGA AGCTGTAG	1831
573	AGCUGCAA A UAUCUAGC	130	GCTAGATA GGCTAGCTACAACGA TTGCAGCT	1832
575	CUGCAAAU A UCUAGCUG	131	CAGCTAGA GGCTAGCTACAACGA ATTTGCAG	1833
580	AAUAUCUA G CUGUACCU	132	AGGTACAG GGCTAGCTACAACGA TAGATATT	1834
583	AUCUAGCU G UACCUACU	133	AGTAGGTA GGCTAGCTACAACGA AGCTAGAT	1835
585	CUAGCUGU A CCUACUUC	134	GAAGTAGG GGCTAGCTACAACGA ACAGCTAG	1836
589	CUGUACCU A CUUCAAAG	135	CTTTGAAG GGCTAGCTACAACGA AGGTACAG	1837
607	AGAAGGAA A CAGAAUCU	136	AGATTCTG GGCTAGCTACAACGA TTCCTTCT	1838
612	GAAACAGA A UCUGCAAU	137	ATTGCAGA GGCTAGCTACAACGA TCTGTTTC	1839
616	CAGAAUCU G CAAUCUAU	138	ATAGATTG GGCTAGCTACAACGA AGATTCTG	1840
619	AAUCUGCA A UCUAUAUA	139	TATATAGA GGCTAGCTACAACGA TGCAGATT	1841
623	UGCAAUCU A UAUAUUUA	140	TAAATATA GGCTAGCTACAACGA AGATTGCA	1842
625	CAAUCUAU A UAUUUAUU	141	AATAAATA GGCTAGCTACAACGA ATAGATTG	1843
627	AUCUAUAU A UUUAUUAG	142	CTAATAAA GGCTAGCTACAACGA ATATAGAT	1844
631	AUAUAUUU A UUAGUGAU	143	ATCACTAA GGCTAGCTACAACGA AAATATAT	1845
635	AUUUAUUA G UGAUACAG	144	CTGTATCA GGCTAGCTACAACGA TAATAAAT	1846
638	UAUUAGUG A UACAGGUA	145	TACCTGTA GGCTAGCTACAACGA CACTAATA	1847
640	UUAGUGAU A CAGGUAGA	146	TCTACCTG GGCTAGCTACAACGA ATCACTAA	1848
644	UGAUACAG G UAGACCUU	147	AAGGTCTA GGCTAGCTACAACGA CTGTATCA	1849
648	ACAGGUAG A CCUUUCGU	148	ACGAAAGG GGCTAGCTACAACGA CTACCTGT	1850
655	GACCUUUC G UAGAGAUG	149	CATCTCTA GGCTAGCTACAACGA GAAAGGTC	1851
661	UCGUAGAG A UGUACAGU	150	ACTGTACA GGCTAGCTACAACGA CTCTACGA	1852
663	GUAGAGAU G UACAGUGA	151	TCACTGTA GGCTAGCTACAACGA ATCTCTAC	1853
665	AGAGAUGU A CAGUGAAA	152	TTTCACTG GGCTAGCTACAACGA ACATCTCT	1854

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<u> </u>	GREET GREET GREET		CONTINUES COMENCIA CON TOCAL MICHA CA MIC	1055
668	GAUGUACA G UGAAAUCC	153	GGATTTCA GGCTAGCTACAACGA TGTACATC	1855
673	ACAGUGAA A UCCCCGAA	154	TTCGGGGA GGCTAGCTACAACGA TTCACTGT	1856
682	UCCCCGAA A UUAUACAC	155	GTGTATAA GGCTAGCTACAACGA TTCGGGGA	1857
685	CCGAAAUU A UACACAUG	156	CATGTGTA GGCTAGCTACAACGA AATTTCGG	1858
687	GAAAUUAU A CACAUGAC	157	GTCATGTG GGCTAGCTACAACGA ATAATTTC	1859
689	AAUUAUAC A CAUGACUG	158	CAGTCATG GGCTAGCTACAACGA GTATAATT	1860
691	UUAUACAC A UGACUGAA	159	TTCAGTCA GGCTAGCTACAACGA GTGTATAA	1861
694	UACACAUG A CUGAAGGA	160	TCCTTCAG GGCTAGCTACAACGA CATGTGTA	1862
708	GGAAGGGA G CUCGUCAU	161	ATGACGAG GGCTAGCTACAACGA TCCCTTCC	1863
712	GGGAGCUC G UCAUUCCC	162	GGGAATGA GGCTAGCTACAACGA GAGCTCCC	1864
715	AGCUCGUC A UUCCCUGC	163	GCAGGGAA GGCTAGCTACAACGA GACGAGCT	1865
722	CAUUCCCU G CCGGGUUA	164	TAACCCGG GGCTAGCTACAACGA AGGGAATG	1866
727	CCUGCCGG G UUACGUCA	165	TGACGTAA GGCTAGCTACAACGA CCGGCAGG	1867
730	GCCGGGUU A CGUCACCU	166	AGGTGACG GGCTAGCTACAACGA AACCCGGC	1.868
732	CGGGUUAC G UCACCUAA	167	TTAGGTGA GGCTAGCTACAACGA GTAACCCG	1869
735	GUUACGUC A CCUAACAU	168	ATGTTAGG GGCTAGCTACAACGA GACGTAAC	1870
740	GUCACCUA A CAUCACUG	169	CAGTGATG GGCTAGCTACAACGA TAGGTGAC	1871
742	CACCUAAC A UCACUGUU	170	AACAGTGA GGCTAGCTACAACGA GTTAGGTG	1872
745	CUAACAUC A CUGUUACU	171	AGTAACAG GGCTAGCTACAACGA GATGTTAG	1873
748	ACAUCACU G UUACUUUA	172	TAAAGTAA GGCTAGCTACAACGA AGTGATGT	1874
751	UCACUGUU A CUUUAAAA	173	TTTTAAAG GGCTAGCTACAACGA AACAGTGA	1875
762	UUAAAAAA G UUUCCACU	174	AGTGGAAA GGCTAGCTACAACGA TTTTTTAA	1876
768	AAGUUUCC A CUUGACAC	175	GTGTCAAG GGCTAGCTACAACGA GGAAACTT	1877
773	UCCACUUG A CACUUUGA	176	TCAAAGTG GGCTAGCTACAACGA CAAGTGGA	1878
775	CACUUGAC A CUUUGAUC	177	GATCAAAG GGCTAGCTACAACGA GTCAAGTG	1879
781	ACACUUUG A UCCCUGAU	178	ATCAGGGA GGCTAGCTACAACGA CAAAGTGT	1880
788	GAUCCCUG A UGGAAAAC	179	GTTTTCCA GGCTAGCTACAACGA CAGGGATC	1881
795	GAUGGAAA A CGCAUAAU	180	ATTATGCG GGCTAGCTACAACGA TTTCCATC	1882
797	UGGAAAAC G CAUAAUCU	181	AGATTATG GGCTAGCTACAACGA GTTTTCCA	1883
799	GAAAACGC A UAAUCUGG	182	CCAGATTA GGCTAGCTACAACGA GCGTTTTC	1884
802	AACGCAUA A UCUGGGAC	183	GTCCCAGA GGCTAGCTACAACGA TATGCGTT	1885
809	AAUCUGGG A CAGUAGAA	184	TTCTACTG GGCTAGCTACAACGA CCCAGATT	1886
812	CUGGGACA G UAGAAAGG	185	CCTTTCTA GGCTAGCTACAACGA TGTCCCAG	1887
821	UAGAAAGG G CUUCAUCA	186	TGATGAAG GGCTAGCTACAACGA CCTTTCTA	1888
826	AGGGCUUC A UCAUAUCA	187	TGATATGA GGCTAGCTACAACGA GAAGCCCT	1889
829	GCUUCAUC A UAUCAAAU	188	ATTTGATA GGCTAGCTACAACGA GATGAAGC	1890
831	UUCAUCAU A UCAAAUGC	189	GCATTTGA GGCTAGCTACAACGA ATGATGAA	1891
836	CAUAUCAA A UGCAACGU	190	ACGTTGCA GGCTAGCTACAACGA TTGATATG	1892
838	UAUCAAAU G CAACGUAC	191	GTACGTTG GGCTAGCTACAACGA ATTTGATA	1893
841	CAAAUGCA A CGUACAAA	192	TTTGTACG GGCTAGCTACAACGA TGCATTTG	1894
843	AAUGCAAC G UACAAAGA	193	TCTTTGTA GGCTAGCTACAACGA GTTGCATT	1895
845	UGCAACGU A CAAAGAAA	194	TTTCTTTG GGCTAGCTACAACGA ACGTTGCA	1896
853	ACAAAGAA A UAGGGCUU	195	AAGCCCTA GGCTAGCTACAACGA TTCTTTGT	1897
858	GAAAUAGG G CUUCUGAC	196	GTCAGAAG GGCTAGCTACAACGA CCTATTTC	1898
865	GGCUUCUG A CCUGUGAA	197	TTCACAGG GGCTAGCTACAACGA CAGAAGCC	1899
869	UCUGACCU G UGAAGCAA	198	TTGCTTCA GGCTAGCTACAACGA AGGTCAGA	1900
874	CCUGUGAA G CAACAGUC	199	GACTGTTG GGCTAGCTACAACGA TTCACAGG	1901
877	GUGAAGCA A CAGUCAAU	200	ATTGACTG GGCTAGCTACAACGA TGCTTCAC	1902
880	AAGCAACA G UCAAUGGG	201	CCCATTGA GGCTAGCTACAACGA TGTTGCTT	1903
884	AACAGUCA A UGGGCAUU	202	AATGCCCA GGCTAGCTACAACGA TGACTGTT	1904
888	GUCAAUGG G CAUUUGUA	203	TACAAATG GGCTAGCTACAACGA CCATTGAC	1905
890	CAAUGGGC A UUUGUAUA	204	TATACAAA GGCTAGCTACAACGA GCCCATTG	1906

894	GGGCAUUU G UAUAAGAC	205	GTCTTATA GGCTAGCTACAACGA AAATGCCC	1907
896	GCAUUUGU A UAAGACAA	206	TTGTCTTA GGCTAGCTACAACGA ACAAATGC	1908
901	UGUAUAAG A CAAACUAU	207	ATAGTTTG GGCTAGCTACAACGA CTTATACA	1909
905	UAAGACAA A CUAUCUCA	208	TGAGATAG GGCTAGCTACAACGA TTGTCTTA	1910
908	GACAAACU A UCUCACAC	209	GTGTGAGA GGCTAGCTACAACGA AGTTTGTC	1911
913	ACUAUCUC A CACAUCGA	210	TCGATGTG GGCTAGCTACAACGA GAGATAGT	1912
915	UAUCUCAC A CAUCGACA	211	TGTCGATG GGCTAGCTACAACGA GTGAGATA	1913
917	UCUCACAC A UCGACAAA	212	TTTGTCGA GGCTAGCTACAACGA GTGTGAGA	1914
921	ACACAUCG A CAAACCAA	213	TTGGTTTG GGCTAGCTACAACGA CGATGTGT	1915
925	AUCGACAA A CCAAUACA	214	TGTATTGG GGCTAGCTACAACGA TTGTCGAT	1916
929	ACAAACCA A UACAAUCA	215	TGATTGTA GGCTAGCTACAACGA TGGTTTGT	1917
931	AAACCAAU A CAAUCAUA	216	TATGATTG GGCTAGCTACAACGA ATTGGTTT	1918
934	CCAAUACA A UCAUAGAU	217	ATCTATGA GGCTAGCTACAACGA TGTATTGG	1919
937	AUACAAUC A UAGAUGUC	218	GACATCTA GGCTAGCTACAACGA GATTGTAT	1920
941	AAUCAUAG A UGUCCAAA	219	TTTGGACA GGCTAGCTACAACGA CTATGATT	1921
943	UCAUAGAU G UCCAAAUA	220	TATTTGGA GGCTAGCTACAACGA ATCTATGA	1922
949	AUGUCCAA A UAAGCACA	221	TGTGCTTA GGCTAGCTACAACGA TTGGACAT	1923
953	CCAAAUAA G CACACCAC	222	GTGGTGTG GGCTAGCTACAACGA TTATTTGG	1924
955	AAAUAAGC A CACCACGC	223	GCGTGGTG GGCTAGCTACAACGA GCTTATTT	1925
957	AUAAGCAC A CCACGCCC	224	GGGCGTGG GGCTAGCTACAACGA GTGCTTAT	1926
960	AGCACACC A CGCCCAGU	225	ACTGGGCG GGCTAGCTACAACGA GGTGTGCT	1927
962	CACACCAC G CCCAGUCA	226	TGACTGGG GGCTAGCTACAACGA GTGGTGTG	1928
967	CACGCCCA G UCAAAUUA	227	TAATTTGA GGCTAGCTACAACGA TGGGCGTG	1929
972	CCAGUCAA A UUACUUAG	228	CTAAGTAA GGCTAGCTACAACGA TTGACTGG	1930
975	GUCAAAUU A CUUAGAGG	229	CCTCTAAG GGCTAGCTACAACGA AATTTGAC	1931
983	ACUUAGAG G CCAUACUC	230	GAGTATGG GGCTAGCTACAACGA CTCTAAGT	1932
986	UAGAGGCC A UACUCUUG	231	CAAGAGTA GGCTAGCTACAACGA GGCCTCTA	1933
988	GAGGCCAU A CUCUUGUC	232	GACAAGAG GGCTAGCTACAACGA ATGGCCTC	1934
994	AUACUCUU G UCCUCAAU	233	ATTGAGGA GGCTAGCTACAACGA AAGAGTAT	1935
1001	UGUCCUCA A UUGUACUG	234	CAGTACAA GGCTAGCTACAACGA TGAGGACA	1936
1004	CCUCAAUU G UACUGCUA	235	TAGCAGTA GGCTAGCTACAACGA AATTGAGG	1937
1006	UCAAUUGU A CUGCUACC	236	GGTAGCAG GGCTAGCTACAACGA ACAATTGA	1938
1009	AUUGUACU G CUACCACU	237	AGTGGTAG GGCTAGCTACAACGA AGTACAAT	1939
1012	GUACUGCU A CCACUCCC	238	GGGAGTGG GGCTAGCTACAACGA AGCAGTAC	1940
1015	CUGCUACC A CUCCCUUG	239	CAAGGGAG GGCTAGCTACAACGA GGTAGCAG	1941
1025	UCCCUUGA A CACGAGAG	240	CTCTCGTG GGCTAGCTACAACGA TCAAGGGA	1942
1027	CCUUGAAC A CGAGAGUU	241	AACTCTCG GGCTAGCTACAACGA GTTCAAGG	1943
1033	ACACGAGA G UUCAAAUG	242	CATTTGAA GGCTAGCTACAACGA TCTCGTGT	1944
1039	GAGUUCAA A UGACCUGG	243	CCAGGTCA GGCTAGCTACAACGA TTGAACTC	1945
1042	UUCAAAUG A CCUGGAGU	244	ACTCCAGG GGCTAGCTACAACGA CATTTGAA	1946
1049	GACCUGGA G UUACCCUG	245	CAGGGTAA GGCTAGCTACAACGA TCCAGGTC	1947
1052	CUGGAGUU A CCCUGAUG	246	CATCAGGG GGCTAGCTACAACGA AACTCCAG	1948
1058	UUACCCUG A UGAAAAA	247	TTTTTCA GGCTAGCTACAACGA CAGGGTAA	1949
1067	UGAAAAAA A UAAGAGAG	248	CTCTCTTA GGCTAGCTACAACGA TTTTTTCA	1950
1075	AUAAGAGA G CUUCCGUA	249	TACGGAAG GGCTAGCTACAACGA TCTCTTAT	1951
1081	GAGCUUCC G UAAGGCGA	250	TCGCCTTA GGCTAGCTACAACGA GGAAGCTC	1952
1086	UCCGUAAG G CGACGAAU	251	ATTCGTCG GGCTAGCTACAACGA CTTACGGA	1953
1089	GUAAGGCG A CGAAUUGA	252	TCAATTCG GGCTAGCTACAACGA CGCCTTAC	1954
1093	GGCGACGA A UUGACCAA	253	TTGGTCAA GGCTAGCTACAACGA TCGTCGCC	1955
1097	ACGAAUUG A CCAAAGCA	254	TGCTTTGG GGCTAGCTACAACGA CAATTCGT	1956
1103	UGACCAAA G CAAUUCCC	255	GGGAATTG GGCTAGCTACAACGA TTTGGTCA	1957
1106	CCAAAGCA A UUCCCAUG	256	CATGGGAA GGCTAGCTACAACGA TGCTTTGG	1958
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1110	CANTILLOGO A MOCCARDO		TOTAL COMPAGNACIA CON CONTROL	1050
1112	CAAUUCCC A UGCCAACA	257	TGTTGGCA GGCTAGCTACAACGA GGGAATTG	
1114	AUUCCCAU G CCAACAUA	258	TATGTTGG GGCTAGCTACAACGA ATGGGAAT	1960
1118	CCAUGCCA A CAUAUUCU	259	AGAATATG GGCTAGCTACAACGA TGGCATGG	
1120	AUGCCAAC A UAUUCUAC	260	GTAGAATA GGCTAGCTACAACGA GTTGGCAT	1962
1122	GCCAACAU A UUCUACAG	261	CTGTAGAA GGCTAGCTACAACGA ATGTTGGC	
1127	CAUAUUCU A CAGUGUUC	262	GAACACTG GGCTAGCTACAACGA AGAATATG	1964
1130	AUUCUACA G UGUUCUUA	263	TAAGAACA GGCTAGCTACAACGA TGTAGAAT	1965
1132	UCUACAGU G UUCUUACU	264	AGTAAGAA GGCTAGCTACAACGA ACTGTAGA	1966
1138	GUGUUCUU A CUAUUGAC	265	GTCAATAG GGCTAGCTACAACGA AAGAACAC	1967
1141	UUCUUACU A UUGACAAA	266	TTTGTCAA GGCTAGCTACAACGA AGTAAGAA	1968
	UACUAUUG A CAAAAUGC	267	GCATTTTG GGCTAGCTACAACGA CAATAGTA	1969
1150	UUGACAAA A UGCAGAAC	268	GTTCTGCA GGCTAGCTACAACGA TTTGTCAA	1970
	GACAAAAU G CAGAACAA	269	TTGTTCTG GGCTAGCTACAACGA ATTTTGTC	1971
1157	AAUGCAGA A CAAAGACA	270	TGTCTTTG GGCTAGCTACAACGA TCTGCATT	1972
1163	GAACAAAG A CAAAGGAC	271	GTCCTTTG GGCTAGCTACAACGA CTTTGTTC	1973
1170	AGGACUUU A UACUUGUC	272	GTATAAAG GGCTAGCTACAACGA CCTTTGTC	1974
1175		273	GACAAGTA GGCTAGCTACAACGA AAAGTCCT	1975
1177	UUAUACUU G UCGUGUAA	274	ACGACAAG GGCTAGCTACAACGA ATAAAGTC	1976
1181		275	TTACACGA GGCTAGCTACAACGA AAGTATAA	1977
1184	UACUUGUC G UGUAAGGA	276	TCCTTACA GGCTAGCTACAACGA GACAAGTA	1978
1186	UGUAAGGA G UGGACCAU	277	ACTCCTTA GGCTAGCTACAACGA ACGACAAG	
1193		278	ATGGTCCA GGCTAGCTACAACGA TCCTTACA	1980
1197	AGGAGUGG A CCAUCAUU	279	AATGATGG GGCTAGCTACAACGA CCACTCCT	1981
	AGUGGACC A UCAUUCAA	280	TTGAATGA GGCTAGCTACAACGA GGTCCACT	1982
1203	GGACCAUC A UUCAAAUC	281	GATTTGAA GGCTAGCTACAACGA GATGGTCC	1983
1213	UCAUUCAA A UCUGUUAA UCAAAUCU G UUAACACC	282	TTAACAGA GGCTAGCTACAACGA TTGAATGA	1984
1217	AUCUGUUA A CACCUCAG	283	GGTGTTAA GGCTAGCTACAACGA AGATTTGA	1985
1217	CUGUUAAC A CCUCAGUG	284 285	CTGAGGTG GGCTAGCTACAACGA TAACAGAT CACTGAGG GGCTAGCTACAACGA GTTAACAG	1986
1225	ACACCUCA G UGCAUAUA	286		1987
1227	ACCUCAGU G CAUAUAUA	287	TATATGCA GGCTAGCTACAACGA TGAGGTGT TATATATG GGCTAGCTACAACGA ACTGAGGT	1988
1229	CUCAGUGC A UAUAUAUG	288	CATATATA GGCTAGCTACAACGA GCACTGAG	1989
1231	CAGUGCAU A UAUAUGAU	289	ATCATATA GGCTAGCTACAACGA ATGCACTG	1990
1233	GUGCAUAU A UAUGAUAA	290	TTATCATA GGCTAGCTACAACGA ATATGCAC	1991
1235	GCAUAUAU A UGAUAAAG	291	CTTTATCA GGCTAGCTACAACGA ATATATGC	1993
1238	UAUAUAUG A UAAAGCAU	292	ATGCTTTA GGCTAGCTACAACGA CATATATA	1994
1243	AUGAUAAA G CAUUCAUC	293	GATGAATG GGCTAGCTACAACGA TTTATCAT	1995
1245	GAUAAAGC A UUCAUCAC	294	GTGATGAA GGCTAGCTACAACGA GCTTTATC	1996
1249	AAGCAUUC A UCACUGUG	295	CACAGTGA GGCTAGCTACAACGA GAATGCTT	1997
1252	CAUUCAUC A CUGUGAAA	296	TTTCACAG GGCTAGCTACAACGA GATGAATG	1998
1255	UCAUCACU G UGAAACAU	297	ATGTTTCA GGCTAGCTACAACGA AGTGATGA	1999
1260	ACUGUGAA A CAUCGAAA	298	TTTCGATG GGCTAGCTACAACGA TTCACAGT	2000
1262	UGUGAAAC A UCGAAAAC	299	GTTTTCGA GGCTAGCTACAACGA GTTTCACA	2001
1269	CAUCGAAA A CAGCAGGU	300	ACCTGCTG GGCTACCTACAACGA TTTCGATG	2002
1272	CGAAAACA G CAGGUGCU	301	AGCACCTG GGCTAGCTACAACGA TGTTTTCG	2002
1276	AACAGCAG G UGCUUGAA	302	TTCAAGCA GGCTAGCTACAACGA CTGCTGTT	2003
1278	CAGCAGGU G CUUGAAAC	303	GTTTCAAG GGCTAGCTACAACGA ACCTGCTG	2005
1285	UGCUUGAA A CCGUAGCU	304	AGCTACGG GGCTAGCTACAACGA TTCAAGCA	2006
1288	UUGAAACC G UAGCUGGC	305	GCCAGCTA GGCTACCTACAACGA GGTTTCAA	2007
1291	AAACCGUA G CUGGCAAG	306	CTTGCCAG GGCTAGCTACAACGA TACGGTTT	2007
1295	CGUAGCUG G CAAGCGGU	307	ACCGCTTG GGCTACCTACAACGA CAGCTACG	2009
1299	GCUGGCAA G CGGUCUUA	308	TAAGACCG GGCTAGCTACAACGA TTGCCAGC	2010
			TIGCCAGC	2010

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1302 GGCARGCS C UCUUACOS 309 CGGTARGA GGCTAGCACGA NARACCGS 2012 1311 UCUUACCS C CUCCUUNU 311 ATAGAGAS GGCTAGCTCARCACA ARACCGS 2013 1318 GGCUCUUC A UGANAGUG 312 CACTITICA GGCTAGCTACACGA AGAGAGCC 2014 1324 CUUAGAAA GU GANAGCCS 313 TGCTTCA GGCTAGCTACACACA AGAGAGCC 2014 1324 CUUAGAAA GU GANAGCCS 314 GGGTAGCTACACACA TITCATAG 2013 1339 AAGUGAAG C AUUUCCCU 315 GGGTAGCTACACACA TITCATAG 2015 2014 20					
1311	1302	GGCAAGCG G UCUUACCG	309	CGGTAAGA GGCTAGCTACAACGA CGCTTGCC	2011
1318 GGCUCUCU A UGAANGUG 312 CACTITCA GGCTAGCTACAGGA AGAGAGCC 2014 1324 CUUURAA G UGAAGGCA 313 TGCCTTCA GGCTAGCTACAGCA TITCATG 2015 1333 AAGURAA G CAMUUCCC 315 GAGGAAA GGCTAGCTTACATG 2016 1334 CUUGAGGGA C AUUUCCCUC 315 GAGGAAA GGCTAGCTACACGA GCCTTCACC 2017 1341 UUUCCCUC G CCGGAGU 316 ACTTCCGG GGCTAGCTACACGA GCCTTCACC 2017 1346 CCCCGGGAA G UUUUAUGG 317 CCATACAA GGCTAGCTACAACGA ACTTCCGG 2019 1345 CCGCGGGAA G UUUUAUGG 317 CCATACAA GGCTAGCTACAACGA TTCCGGC 2019 1345 CGGAGUUG A UGUUUAA 318 TAACCATA GGCTAGCTACAACGA ACTTCCG 2020 1355 GAAGUUG A UGUUAAA 319 TTTAACCA GGCTAGCTACAACGA ACTTCCG 2021 1356 GUUGAUGG UUACACUGC 321 GTAACCCA GGCTAGCTACAACGA ACACTTC 2021 1366 AUAAAAGA 319 TTTAACCA GGCTAGCTACAACGA CATACAAC 2022 1364 GUUAAAAGA 310 GTAACCCA GGCTAGCTACAACGA CATACAAC 2022 1371 GAUGGUUC 212 GTAACCCA GGCTAGCTACAACGA CATACAAC 2025 1375 GGUUACCUGC 222 CCAGCTAA GCTAACTCACACGA CCATCTT 2024 1371 GAUGGUUC CUAGAAAA 325 TTCCAGT GGCTAGCTACACGA ACCCATC 2025 1375 GGUUACCUG CUAGAAA 325 TTCCAGT GGCTAGCTACACGA ACCCATC 2025 1375 GGUUACCUG CUAGAAA 325 TTCCAGT GGCTAGCTACACGA ACCCATC 2025 1375 GGUUACCUG CUAGAAA 325 TTCCAGT GGCTAGCTACACGA ACCCATC 2026 1399 AGAAUCU G CUCGCUAU 326 CGAGCAGA GGCTAGCTACAACGA ACCTACACA 2027 1386 ACUGAGAA A UCUGCUGA 326 CGAGCAGA GGCTAGCTACAACGA AGATTTCT 2029 AGAAUCU G CUAUUUGA 328 TCAAATAG GGCTAGCTACAACGA AGATTTCT 2029 1397 UGCUCGCU UUUGACUC 329 ACTACAGA GGCTAGCTACAACGA AGATTTCT 2029 ACUGAGUA CUCGUUAU 320 ACCACGAG GGCTAGCTACAACGA AGACAGA 2031 1402 GCUAUUUG A CUCGUUAU 322 ACCACGAG GGCTAGCTACAACGA CAAATAGC 2031 1402 GCUAUUUG A CUCGUUAU 332 ACCACGAG GGCTAGCTACAACGA CACAGATC 2031 1402 GUUACUCG UUGACUC 333 ACTACACA GGCTAGCTACAACGA CACAGATC 2031 1402 GUUACUCG UUGACUCG 334 ACCACGAG GGCTAGCTACAACGA CACAGATC 2031 1405 GUUACUCG UUGA	1307	GCGGUCUU A CCGGCUCU	310	AGAGCCGG GGCTAGCTACAACGA AAGACCGC	2012
1324	1311	UCUUACCG G CUCUCUAU	311	ATAGAGAG GGCTAGCTACAACGA CGGTAAGA	2013
1333	1318	GGCUCUCU A UGAAAGUG	312	CACTTTCA GGCTAGCTACAACGA AGAGAGCC	2014
1332 GUGAAGGC A UUUCCCUC 315 GAGGGAAA GGCTAGCTACAACGA GCCTTCAC 2017 1341 UUUCCCUC G COGGAAGU 316 ACTTCCGG GGCTAGCTACAACGA GAGGGAAA 2018 1348 CGCCGGGAA G UUGGAUGG 317 CCATACAA GGCTAGCTACAACGA ATTCCGGC 2019 1351 CGGAAGUU G UAUGGUUA 318 TAACCATA GGCTAGCTACAACGA ATCCTGCG 2019 1353 GAAGUUGU A UGGUUAAA 319 TTTAACCA GGCTAGCTACAACGA ACACTTC 2021 1356 GUUGAUG G UUAAAAGA 320 TCTTTTAA GGCTAGCTACAACGA CATACAAC 2022 1364 GUUAAAGA 320 CTTTTAA GGCTAGCTACAACGA CATACAAC 2022 1364 GUUAAAGA 320 CTTTTAA GGCTAGCTACAACGA CATACATA 2022 1377 GAUGGGUU A CUGGCAC 322 GCAGGTAA GGCTAGCTACAACGA CATACATA 2023 1373 GAUGGGUU A CUGGCAC 322 GCAGGTAA GGCTAGCTACAACGA CATACTAT 2024 1377 GAUGGGUU A CUGGCAC 323 GTGCAGG GGCTAGCTACAACGA CATACTAT 2025 1378 UACCUGCG 2026 2026 CTGAGCAG GGCTAGCTACAACGA ACACTCTTT 2024 1378 UACCUGCG ACUGAGAA 325 TTTCTCAG GGCTAGCTACAACGA ACACTCTT 2028 1390 AGAAUCU G CUGGCUAU 327 ATAGCGAG GGCTAGCTACAACGA ACAGGATT 2028 1390 AGAAUCU G CUGGCUAU 327 ATAGCGAG GGCTAGCTACAACGA ACAGGA CAGAGTA 2028 1390 AGAAUCU G CUGUUUGA 328 TCAAATAG GGCTAGCTACAACGA ACAGAGA CAGAGTA 2031 1402 GCUAUUUGA 328 TCAAATAG GGCTAGCTACAACGA ACCAGAT 2031 1402 GCUAUUUGA 328 TCAAATAG GGCTAGCTACAACGA ACCAGACGA 2031 1402 GCUAUUUGA CUGUUGA 330 GCCACGAG GGCTAGCTACAACGA ACCAGACGA 2031 1409 GACUCGUU UUUGACUC 322 GAGTAGCTACAACGA ACCAGACGA 2031 1409 GACUCGUU CUGUUUAA 331 AGTAGCA GGCTAGCTACAACGA ACCAGACGA 2031 1412 UCGUGCU CUGUUUAA 333 TTAAGGAG GGCTAGCTACAACGA ACCAGACGA 2031 1412 UCGUGCU CUGUUUAA 333 TTAAGGAG GGCTAGCTACAACGA ACCAGACGA 2031 1412 UCGUGCU CUGUUUAA 333 TTAAGGAG GGCTAGCTACAACGA ACCAGACGA 2031 1412 UCGUGCU CUGUUAA 333 TTAAGGAG GGCTAGCTACAACGA ACCAGACGA 2031 1412 UCGUGCU CUGUUAA 333 TTAAGGAG GGCTAGCTACAACGA ACCAGACGA 2031 1414 UCGUGCU CUUAAUUU 334 ACAATTAA GGCTAGCTACAACGA ACCAGAC	1324	CUAUGAAA G UGAAGGCA	313	TGCCTTCA GGCTAGCTACAACGA TTTCATAG	2015
1341 UUUCCCUC G CCGGAAGU 316 ACTTCCGG GGCTAGCTACAACGA GAGGGAAA 2018 1348 CGCCGGAA G UUGUAUGG 317 CCATACAA GGCTAGCTACAACGA TTCCGGGG 2019 1351 GGAAGUUG I AUGUGUUAA 318 TATACCATA GGCTAGCTACAACGA AACTTCC 2021 1353 GAAGUUGU A UGGUUAAA 319 TTTAACCA GGCTAGCTACAACGA AACTACAC 2022 1354 GUUGAABAG UGGGUUAC 321 CTATTTAA GGCTAGCTACAACGA CATACAAC 2022 1364 GUUAAABAG UGGGUUAC 322 GCAGGTAA GGCTAGCTACAACGA CTTTAAC 2023 1363 AAAGAUGG UUAACUGC 322 GCAGGTAA GGCTAGCTACAACGA CTTTAAC 2023 1375 GAUGACU GCACUGAG 323 GTCGCAGG GGCTAGCTACAACGA CATACCAT 2024 1375 GAUGACU GCACUGAG 324 CTCATCCAGCTACACGA CATACCAT 2025 1378 UACCUGCG CGACUGAG 324 CTCATCCAGCTACACGA AACCCATC 2025 1379 UACCUGCG CUGACUGAG 325 CTCATCCAG GGCTAGCTACAACGA CGCAGCTA 2026 1379 UACCUGCG CUGACUGA 326 CGAGCAGA GGCTAGCTACAACGA CGCAGCTA 2027 1394 AUCUGCUC CUCACUUU 327 ATAGCGA GGCTAGCTACAACGA CGCAGCTA 2028 1394 AUCUGCUC CUUAUUGA 328 TCAAATAG GGCTAGCTACAACGA AGCAGCA 2031 1402 GCUAUUU A CUCGUGC 329 GAGTACAA GGCTAGCTACAACGA AGCAGCA 2031 1402 GCUAUUU A CUCGUGC 329 GAGTACAA GGCTAGCTACAACGA AGCAGCA 2031 1404 UUUGACUC UUGGUGC 330 GCCACGAG GGCTAGCTACAACGA AGCAACGA 2031 1405 GUUCGUU A CUCGUUAA 331 AGTACCA GGCTAGCTACAACGA CAAATAGC 2034 1412 UCGUGGC CUUACUCG 332 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1412 UCGUGGC CUUACUCG 333 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1412 UCGUGGC CUUACUCG 332 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1412 UCGUGGC CUUACUCG 333 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1412 UCGUGGC CUUACUCG 332 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1412 UCGUGGC CUUACUCG 333 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1412 UCGUGGC CUUACUCG 333 ACGACTAG GGCTAGCTACAACGA CACAGATC 2034 1414 UCGUGGC CUUACUCG 334 ACGACTAG GGCTAGCTACAACGA CACAGATC	1330	AAGUGAAG G CAUUUCCC	314	GGGAAATG GGCTAGCTACAACGA CTTCACTT	2016
1348	1332	GUGAAGGC A UUUCCCUC	315	GAGGGAAA GGCTAGCTACAACGA GCCTTCAC	2017
1351	1341	UUUCCCUC G CCGGAAGU	316	ACTTCCGG GGCTAGCTACAACGA GAGGGAAA	2018
1353 GAAGUUGU A UGGUUAAA 319 TTTAACCA GGCTAGCTACAACGA ACAACTTC 2021 1355 GUUGUAUG G UUAAAAGA 320 TCTTTTAA GGCTAGCTACAACGA CATTACAC 2023 1364 GUUAAAGA UGGGUUAC 321 GTAACCA GGCTAGCTACAACGA CTTTAAC 2023 1368 AAAGAUGG G UUACCUGC 322 GCAGGTAA GGCTAGCTACAACGA CTTTTAC 2024 1371 GAUGGGUU A CUUGGGAC 323 GTCGCAGG GGCTAGCTACAACGA ACCCATC 2025 1378 UACCUGCG A CUGAGAA 324 CTCTGTCG GGCTAGCTACAACGA AGGTAAC 2026 1378 UACCUGCG A CUGAGAA 324 CTCTGTCG GGCTAGCTACAACGA AGGTAAC 2026 1378 UACCUGCG A CUGAGAA 325 TTCTCAG GGCTAGCTACAACGA CGCTACTC 2026 1378 UACCUGCG A CUGAGAA 325 TTCTCAG GGCTAGCTACAACGA AGGTACCAC 2026 1378 UACCUGCG A CUGAGAA 325 TTCTCAG GGCTAGCTACAACGA AGTATCAC 2027 1386 ACUGAGAA A UCUGCUCG 326 CGAGCAGA GGCTAGCTACAACGA AGTATCAC 2029 1394 AUCUGCUC G CUAUUUGA 327 ATAGGCAG GGCTAGCTACAACGA AGATCTCAC 2029 1397 UGCUCCCU A UUUGACUC 329 GAGTCAAA GGCTAGCTACAACGA AGATCAC 2031 1402 GCUAUUUGA 329 GAGTCAAA GGCTAGCTACAACGA AGATCAC 2031 1402 GCUAUUUGA 329 GAGTCAAA GGCTAGCTACAACGA AGATCAAC 2032 1406 UUUGACUC G UUGACUC 331 AGTACCCA GGCTAGCTACAACGA CAAATGA 2032 1406 UUUGACUC G UUGAUUAA 333 TTAACGAG GGCTAGCTACAACGA CACATAC 2032 1412 UCCUGGUC G CUACUCGU 332 ACGAGTAG GGCTAGCTACAACGA CACAGA 2031 1412 UCCUGGUC G CUACUCGU 332 ACGAGTAG GGCTAGCTACAACGA CACAGA 2035 1416 GGCUACUC G UUAAUUAA 334 ATAATATAA GGCTAGCTACAACGA CACAGA 2035 1416 GGCUACUC G UUAAUUAA 334 ATAATATAA GGCTAGCTACAACGA CACAGA 2035 1420 ACCUGUUA A UUAAUCAAG 335 CTCTTTAA GGCTAGCTACAACGA CACTACAC 2036 1420 ACCUGUUA A UUAAUCAAG 336 CTCCTTGA GGCTAGCTACAACGA CACTACAC 2036 1420 ACCUGAGAG A UACCAGAA 338 TTCAGTTA GGCTAGCTACAACGA CCTCTTCA 2040 1424 UGCAGGGA A UACCAGAA 338 TTCAGTTA GGCTAGCTACAACGA CCTCTTCA 2041 1445 UGAAGAGG A UACCAGAA 339 CTCTTGA GGCTAGCTACAACGA CCTCTTCA 2041 1446 UGCAGGGA A UACCAGAA 340 TTCCTGCA GGCTAGCTACAAC	1348	CGCCGGAA G UUGUAUGG	317	CCATACAA GGCTAGCTACAACGA TTCCGGCG	2019
1356	1351	CGGAAGUU G UAUGGUUA	318	TAACCATA GGCTAGCTACAACGA AACTTCCG	2020
1356 GUUGUAUG G UUAAAAGA 320 TCTTTTAA GGCTAGCTACAAGA CATACAAC 2022 1364 GUUAAAAGA A UGGGUUAC 321 GTAACCCA GGCTTAGTACAAGGA CTTTTAAC 2023 1368 AAAGAUGG G UUACCUGC 322 GCAGGTAA GGCTAGGTACAAGGA CATCTTT 2024 1371 GAUGGGUU A CCUGCGAC 322 GCAGGTAA GGCTAGGTACAAGGA AACCCATC 2025 1375 GGUUACCU G CGACUGAG 324 CTCAGTCG GGCTAGCTACAACGA AGCTACCA 2026 1378 UACCUGCG A CUGAGAAA 325 TTTCTCAG GGCTAGCTACAACGA AGGTAACC 2026 1378 UACCUGCG A CUGAGAAA 325 TTTCTCAG GGCTAGCTACAACGA CGCAGGTA 2027 1386 ACUGAGAA A UCUGCUCG 326 CGAGCAGA GGCTAGCTACAACGA CGCAGGTA 2027 1390 AGAAAUCU G CUCGCUAU 327 ATAGCAGA GGCTAGCTACAACGA AGATTCT 2029 1394 AUCUGCUC G CUAUUUGA 328 TCAAATAG GGCTAGCTACAACGA AGATTCT 2029 1397 UGCUCCCU A UUUGACUC 329 GAGTCAAA GGCTAGCTACAACGA AGATTACC 2031 1402 GCUAUUUGA 2328 TCAAATAG GGCTAGCTACAACGA AGATTACC 2031 1402 GCUAUUUGA 2026 CGAGCAGG GGCTAGCTACAACGA AGATTACC 2031 1402 GCUAUUUGA 329 GAGTCAAA GGCTAGCTACAACGA AGATCAC 2031 1404 UUUGACUC G UGGCUACU 331 AGTAGCA GGCTAGCTACAACGA CAAATAGC 2032 1404 UUUGACUC G UGGCUACU 331 AGTAGCA GGCTAGCTACAACGA AGACCAACGA 2031 1409 GACUCGUG G CUACUCGU 332 ACCAGTAG GGCTAGCTACAACGA AGCCACGA 2035 1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA AGCCACGA 2035 1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA AGCCACCA 2036 1420 ACUCGUUA UUACAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA ATTAACGA 2036 1420 ACUCGUUA UUACAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA ATTAACGA 2036 1430 UAUCAAGGA A CUGAGAGA 336 GTCCTTGA GGCTAGCTACAACGA ATTAACGA 2036 1430 UAUCAAGGA A CUGAACUG 337 CAGTTACA GGCTAGCTACAACGA ATTAACGA 2039 1440 AGAGGAAU A UUACAAGA 338 TTCAGTTA GGCTAGCTACAACGA CTCTTCA 2041 1451 UAGAGGAC UAACUGAA 338 TTCAGTTA GGCTAGCTACAACGA CTCTTCA 2041 1451 UAGAGGAC A UGAACUGA 341 ATTCCTG GGCTAGCTACAACGA CTCTTCA 2041 1451 UAGAGGAC A UGACAGA 342 TTGTATA GGCT	1353	GAAGUUGU A UGGUUAAA	319	TTTAACCA GGCTAGCTACAACGA ACAACTTC	2021
1368	1356	GUUGUAUG G UUAAAAGA	320	TCTTTTAA GGCTAGCTACAACGA CATACAAC	2022
1368	1364	GUUAAAAG A UGGGUUAC	321		
1371	1368	AAAGAUGG G UUACCUGC	322		
1375		GAUGGGUU A CCUGCGAC			
1378					
1386					
1390					
1394 AUCUGCUC G CUAUUUGA 328 TCAAATAG GGCTAGCTACAACGA GAGCAGAT 2030 1397 UGCUCGCU A UUUGACUC 329 GAGTCAAA GGCTAGCTACAACGA AGCGAGCA 2031 1402 GCUAUUUG A CUCGUGGC 330 GCCACGAG GGCTAGCTACAACGA CAAATAGC 2032 2036	1390	AGAAAUCU G CUCGCUAU			
1397			328		
1402 GCUAUUUG A CUCGUGGC 330 GCCACGAG GGCTAGCTACAACGA CAATAGC 2032 1406 UUUGACUC G UGGCUACU 331 AGTAGCCA GGCTAGCTACAACGA GAGTCAAA 2033 1409 GACUCGUG G CUACUCGU 332 ACGAGTAG GGCTAGCTACAACGA CACGAGTC 2034 1412 UCGUGGCU A CUCGUUAA 333 TTAACGAG GGCTAGCTACAACGA CACGAGTACCACGA 2035 1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA GAGTAGCC 2035 1420 ACCCGUUA A UUAACAAG 335 CTTGATAA GGCTAGCTACAACGA TATCAACGA 2037 1423 CGUUAAUU A UCAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA ATTAACG 2038 1430 UALCAAGGA C GUAACUGA 337 CAGTTAGCTACAACGA CCTTGATA 2039 1435 AGGACGUA A CUGAAGAG 338 TTCAGTTA GGCTACAACGA ATCCTCTTCA 2040 1447 AAGAGGAU G UAACUGAA 338 TTCAGTTA GGCTACAACGA ATCCTCTTCA 2041 1447 AAGAGGAU G CAGGGAAU 341 ATTCCCTGA GGCTACAACGA ATCCTCTT 2042 1447 AAGAGAUAU A UACAAUCU 343 AGATTGTA GGCTACAACGA ATCCTCTT 2045			329		
1406 UUUGACUC G UGGCUACU 331 AGTAGCCA GGCTAGCTACAACGA GAGTCAAA 2033 1409 GACUCGUG G CUACUCGU 332 ACGAGTAG GGCTAGCTACAACGA CACGAGTC 2034 1412 UCGUGGCU A CUCGUUAA 333 TTAACGAG GGCTAGCTACAACGA AGCCACGA 2035 1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA AGCACACGA 2036 1420 ACUCGUUA A UUAUCAAG 335 CTTGATAA GGCTAGCTACAACGA TAACGAGT 2037 1423 CGUAAUU A UCAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA CTTGATA 2039 1430 UAUCAAGGA C GUAACUG 337 CAGTTACG GGCTAGCTACAACGA CCTTGATA 2039 1432 UCAAGGAC G UAACUGAA 338 TTCAGTTA GGCTAGCTACAACGA TCCTTCA 2040 1435 AGGACGUA A CUGAGGA 339 CTCTTCAG GGCTAGCTACAACGA TCCTCTCA 2041 1445 UGAAGAGG A UGCAGGGA 340 TCCCTGCA GGCTAGCTACAACGA ATCCTCTT 2042 1447 AAGAGGGA A UUAUACAA 341 ATTGCTG GGCTAGCTACAACGA ATCCTCTT 2043 1451 UGCAGGGA A UUAUACAA 342 TTGTATAA GGCTAGCTACAACGA ATAATTCC 2046					
1409 GACUCGUG G CUACUCGU 332 ACGAGTAG GGCTAGCTACAACGA CACAGTC 2034 1412 UCGUGGCU A CUCGUUAA 333 TTAACGAG GGCTAGCTACAACGA AGCCACGA 2035 1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA AGCACGA 2036 1420 ACUCGUUA A UUAUCAAG 335 CTTGATAA GGCTAGCTACAACGA AATTAACG 2037 1423 CGUUAAUU A UCAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA AATTAACG 2038 1430 UAUCAAGG A CGUAACUG 337 CAGTTAGG GGCTAGCTACAACGA CCTTGATA 2039 1432 UCAAGGAC G UAACUGAA 338 TTCAGTTA GGCTAGCTACAACGA CCTTGATA 2040 1435 AGGACGUA A CUGAAGAG 339 CTCTTCAG GGCTAGCTACAACGA ATCCTTCA 2041 1445 UGAAGGGA A UGACGGA 340 TCCCTGCA GGCTAGCTACAACGA ATCCTCTT 2042 1447 AAGAGAGA A UAUACAA 341 ATTCCCTG GGCTAGCTACAACGA ATCCCTCTT 2043 1454 UGCAGGGA A UACAAUCU 343 AGATTGTA GGCTAGCTACAACGA ATCCCTCT 2045 1457 AGGAAUUAU A CAAUCUG 344 CAAGATTG GGCTAGCTACAACGA ATCCCTCT 204	1406				
1412 UCGUGGCU A CUCGUUAA 333 TTAACGAG GGCTAGCTACAACGA AGCCACGA 2035 1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA GAGTAGCC 2036 1420 ACUCGUUA A UUAUCAAG 335 CTTGATAA GGCTAGCTACAACGA TAACGAGT 2037 1423 CGUUAAUU A UCAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA AATTAACG 2038 1430 UAUCAAGGA C GUAACUG 337 CAGTTAGC GGCTAGCTACAACGA ACTTGATA 2039 1432 UCAAGGAC G UAACUGA 338 TTCAGTTA GGCTAGCTACAACGA GTCCTTGATA 2040 1435 AGGACGUA A CUGAAGAG 339 CTCTTCAG GGCTAGCTACAACGA TACGTCTCT 2041 1445 UGAAGAGG A UGCAGGGA 340 TCCCTGCA GGCTAGCTACAACGA ATCCTCTT 2042 1447 AAGAGGAU G CAGGGAAU 341 ATTCCCTG GGCTAGCTACAACGA ATCCTCTT 2044 1457 AGGAAUUA UACAAUCU 343 AGATTGTA GGCTACCAACGA ATCCCTCCA 2044 1457 AGGGAAUUA UACAAUCU 344 CAAGATTG GGCTACCAACGA ATAATTCCC 2045 1462 AUUAUACA A UCUUGCUG 345 CAGCAAGA GGCTACCAACGA TATATATC 2047 <td></td> <td></td> <td></td> <td></td> <td></td>					
1416 GGCUACUC G UUAAUUAU 334 ATAATTAA GGCTAGCTACAACGA GACTAGCC 2036 1420 ACUCGUUA A UUAUCAAG 335 CTTGATAA GGCTAGCTACAACGA TAACGAGT 2037 1423 CGUUAAUU A UCAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA AATTAACG 2038 1430 UAUCAAGGA C GUAACUG 337 CAGTTAGG GGCTAGCTACAACGA CCTTGATA 2039 1432 UCAAGGAC G UAACUGAA 338 TTCAGTTA GGCTAGCTACAACGA GTCCTTGA 2040 1435 AGGACGUA A CUGAAGAG 339 CTCTTCAG GGCTAGCTACAACGA TACGTCCT 2041 1445 UGAAGAGG A UGCAGGGA 340 TCCCTGCA GGCTAGCTACAACGA CCTCTTCA 2042 1447 AAGAGGAU G CAGGGAAU 341 ATTCCCTG GGCTAGCTACAACGA ATCCTCTT 2042 1447 AAGAGGAU G CAGGGAAU 341 ATTCCCTG GGCTAGCTACAACGA ATCCTCTT 2044 1457 AGGGAAUU A UACAAUCU 343 AGATTGTA GGCTACCAACGA ATCCTCTCT 2045 1459 GGAAUUAU A CAAUCUU 344 CAAGATTG GGCTAGCTACAACGA ATATTCC 2046 1462 AUUALACA A UCUUGCUG 345 CAGCAAGA GGCTAGCTACAACGA TCAGCAACA 204					
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1423 CGUUAAUU A UCAAGGAC 336 GTCCTTGA GGCTAGCTACAACGA AATTAACG 2038 1430 UAUCAAGG A CGUAACUG 337 CAGTTACG GGCTAGCTACAACGA CCTTGATA 2039 1432 UCAAGGAC G UAACUGAA 338 TTCAGTTA GGCTAGCTACAACGA GTCCTTGA 2040 1435 AGGACGUA A CUGAAGAG 339 CTCTTCAG GGCTAGCTACAACGA TACGTCCT 2041 1445 UGAAGAGG A UGCAGGGA 340 TCCCTGCA GGCTAGCTACAACGA ATCCTCTC 2042 1447 AAGAGGAU G CAGGGAAU 341 ATTCCCTG GGCTAGCTACAACGA ATCCTCTCA 2044 1454 UGCAGGGA A UUAUACAA 342 TTGTATAA GGCTAGCAACGA ATCCCTCACA 2044 1457 AGGGAAUU A UACAAUCU 343 AGATTGTA GGCTAGCTACAACGA ATCATTCC 2045 1459 GGAAUUAU A CAAUCUUG 344 CAAGATTG GGCTAGCTACAACGA ATCATTCC 2046 1462 AUUAUACA A UCUUGCUG 345 CAGCAAGA GGCTAGCAACGA ATCATTCC 2048 1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAA CCAGCA 2050 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA TTTATGCT <	1420	ACUCGUUA A UUAUCAAG			
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1447 AAGAGGAU G CAGGGAAU 341 ATTCCCTG GGCTAGCTACAACGA ATCCTCTT 2043 1454 UGCAGGGA A UUAUACAA 342 TTGTATAA GGCTAGCTACAACGA ATCCCTGCA 2044 1457 AGGGAAUU A UACAAUCU 343 AGATTGTA GGCTAGCTACAACGA AATTCCCT 2045 1459 GGAAUUAU A CAAUCUUG 344 CAAGATTG GGCTAGCTACAACGA ATAATTCC 2046 1462 AUUAUACA A UCUUGCUG 345 CAGCAAGA GGCTAGCTACAACGA ATGATAAT 2047 1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA TGTATAAT 2047 1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA AGATTGT 2048 1472 CUUGCUGA G CAUAAAACA 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ACATTTGAC 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA ACATTTGA 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA AGTGAGGT 2059 1516 CCACUCUA UCAAAUGU 358 ATTGACA GGCTAGCTACAACGA AATTAGAG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1435	AGGACGUA A CUGAAGAG	339	CTCTTCAG GGCTAGCTACAACGA TACGTCCT	2041
1454 UGCAGGGA A UUAUACAA 342 TTGTATAA GGCTAGCTACAACGA TCCCTGCA 2044 1457 AGGGAAUU A UACAAUCU 343 AGATTGTA GGCTAGCTACAACGA AATTCCCT 2045 1459 GGAAUUAU A CAAUCUUG 344 CAAGATTG GGCTAGCTACAACGA ATAATTCC 2046 1462 AUUAUACA A UCUUGCUG 345 CAGCAAGA GGCTAGCTACAACGA TGTATAAT 2047 1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA AGATTGT 2048 1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAAC GGCTAGCTACAACGA TTTTAACC 2056 1504 AAAACCUC A CUCCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA AGTTTTA 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA AGTGAGGT 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1445	UGAAGAGG A UGCAGGGA	340	TCCCTGCA GGCTAGCTACAACGA CCTCTTCA	2042
1457 AGGGAAUU A UACAAUCU 343 AGATTGTA GGCTAGCTACAACGA AATTCCCT 2045 1459 GGAAUUAU A CAAUCUUG 344 CAAGATTG GGCTAGCTACAACGA ATAATTCC 2046 1462 AUUAUACA A UCUUGCUG 345 CAGCAAGA GGCTAGCTACAACGA TGTATAAT 2047 1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA TGTATAAT 2048 1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA TCAGCAAG 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTTGACTG 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA ACATTTGA 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA AGTGAGGT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA AGTGAGGT 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA AATTAGAG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1447	AAGAGGAU G CAGGGAAU	341	ATTCCCTG GGCTAGCTACAACGA ATCCTCTT	2043
1459 GGAAUUAU A CAAUCUUG 344 CAAGATTG GGCTAGCTACAACGA ATAATTCC 2046 1462 AUUAUACA A UCUUGCUG 345 CAGCAAGA GGCTAGCTACAACGA TGTATAAT 2047 1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA AAGATTGT 2048 1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA AGTGAGGT 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA AGTGAGGT 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2060	1454	UGCAGGGA A UUAUACAA	342	TTGTATAA GGCTAGCTACAACGA TCCCTGCA	2044
1462 AUJAUACA A UCUUGCUG 345 CAGCAAGA GGCTAGCTACAACGA TGTATAAT 2047 1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA AAGATTGT 2048 1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA ACATTTGA 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA AGTGAGGT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1457	AGGGAAUU A UACAAUCU	343	AGATTGTA GGCTAGCTACAACGA AATTCCCT	2045
1467 ACAAUCUU G CUGAGCAU 346 ATGCTCAG GGCTAGCTACAACGA AAGATTGT 2048 1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1459	GGAAUUAU A CAAUCUUG	344	CAAGATTG GGCTAGCTACAACGA ATAATTCC	2046
1472 CUUGCUGA G CAUAAAAC 347 GTTTTATG GGCTAGCTACAACGA TCAGCAAG 2049 1474 UGCUGAGC A UAAAACAG 348 CTGTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1462	AUUAUACA A UCUUGCUG	345	CAGCAAGA GGCTAGCTACAACGA TGTATAAT	2047
1474 UGCUGAGC A UAAAACAG 348 CTGTTTTA GGCTAGCTACAACGA GCTCAGCA 2050 1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1467	ACAAUCUU G CUGAGCAU	346	ATGCTCAG GGCTAGCTACAACGA AAGATTGT	2048
1479 AGCAUAAA A CAGUCAAA 349 TTTGACTG GGCTAGCTACAACGA TTTATGCT 2051 1482 AUAAAACA G UCAAAUGU 350 ACATTTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1472	CUUGCUGA G CAUAAAAC	347	GTTTTATG GGCTAGCTACAACGA TCAGCAAG	2049
AUAAAACA G UCAAAUGU 350 ACATTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1474	UGCUGAGC A UAAAACAG	348	CTGTTTTA GGCTAGCTACAACGA GCTCAGCA	2050
AUAAAACA G UCAAAUGU 350 ACATTGA GGCTAGCTACAACGA TGTTTTAT 2052 1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1479	AGCAUAAA A CAGUCAAA	349		
1487 ACAGUCAA A UGUGUUUA 351 TAAACACA GGCTAGCTACAACGA TTGACTGT 2053 1489 AGUCAAAU G UGUUUAAA 352 TTTAAACA GGCTAGCTACAACGA ATTTGACT 2054 1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1482	AUAAAACA G UCAAAUGU	350	ACATTIGA GGCTAGCTACAACGA TGTTTTAT	
1491 UCAAAUGU G UUUAAAAA 353 TTTTTAAA GGCTAGCTACAACGA ACATTTGA 2055 1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1487	ACAGUCAA A UGUGUUUA	351	TAAACACA GGCTAGCTACAACGA TTGACTGT	2053
1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1489	AGUCAAAU G UGUUUAAA	352	TTTAAACA GGCTAGCTACAACGA ATTTGACT	2054
1499 GUUUAAAA A CCUCACUG 354 CAGTGAGG GGCTAGCTACAACGA TTTTAAAC 2056 1504 AAAACCUC A CUGCCACU 355 AGTGGCAG GGCTAGCTACAACGA GAGGTTTT 2057 1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1491	UCAAAUGU G UUUAAAAA	353	TTTTTAAA GGCTAGCTACAACGA ACATTTGA	
1507 ACCUCACU G CCACUCUA 356 TAGAGTGG GGCTAGCTACAACGA AGTGAGGT 2058 1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1499	GUUUAAAA A CCUCACUG	354	CAGTGAGG GGCTAGCTACAACGA TTTTAAAC	2056
1510 UCACUGCC A CUCUAAUU 357 AATTAGAG GGCTAGCTACAACGA GGCAGTGA 2059 1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1504	AAAACCUC A CUGCCACU	355	AGTGGCAG GGCTAGCTACAACGA GAGGTTTT	2057
1516 CCACUCUA A UUGUCAAU 358 ATTGACAA GGCTAGCTACAACGA TAGAGTGG 2060 1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1507	ACCUCACU G CCACUCUA	356	TAGAGTGG GGCTAGCTACAACGA AGTGAGGT	2058
1519 CUCUAAUU G UCAAUGUG 359 CACATTGA GGCTAGCTACAACGA AATTAGAG 2061	1510	UCACUGCC A CUCUAAUU	357	AATTAGAG GGCTAGCTACAACGA GGCAGTGA	2059
The state of the s	1516	CCACUCUA A UUGUCAAU	358	ATTGACAA GGCTAGCTACAACGA TAGAGTGG	2060
1523 AAUUGUCA A UGUGAAAC 360 GTTTCACA GGCTAGCTACAACGA TGACAATT 2062	1519	CUCUAAUU G UCAAUGUG	359	CACATTGA GGCTAGCTACAACGA AATTAGAG	2061
	1523	AAUUGUCA A UGUGAAAC	360	GTTTCACA GGCTAGCTACAACGA TGACAATT	2062

1525	INICIICANII C IICAAACCC	261	GGGTTTCA GGCTAGCTACAACGA ATTGACAA	2063
1530	UUGUCAAU G UGAAACCC AAUGUGAA A CCCCAGAU	361 362	ATCTGGGG GGCTAGCTACAACGA TTCACATT	2064
1537	AACCCCAG A UUUACGAA	363	TTCGTAAA GGCTAGCTACAACGA CTGGGGTT	
1541	CCAGAUUU A CGAAAAGG	364	CCTTTTCG GGCTAGCTACAACGA AAATCTGG	2065
1549	ACGAAAAG G CCGUGUCA	365	TGACACGG GGCTAGCTACAACGA CTTTTCGT	2066
1552	AAAAGGCC G UGUCAUCG	366	CGATGACA GGCTAGCTACAACGA CTTTTCGT	
1554	AAGGCCGU G UCAUCGUU	367	AACGATGA GGCTAGCTACAACGA ACGGCCTT	2068
1557	GCCGUGUC A UCGUUUCC	ļ. —.	<u> </u>	2069
1560	GUGUCAUC G UUUCCAGA	368 369	GGAAACGA GGCTAGCTACAACGA GACACGGC	2070
1568		370	TCTGGAAA GGCTAGCTACAACGA GATGACAC	2071
1573	CAGACCCG G CUCUCUAC	370	GAGCCGGG GGCTAGCTACAACGA CTGGAAAC GTAGAGAG GGCTAGCTACAACGA CGGGTCTG	2072
1580	GGCUCUCU A CCCACUGG	372		2073
1584	CUCUACCC A CUGGGCAG	373	CCAGTGGG GGCTAGCTACAACGA AGAGAGCC	2074
1589	CCCACUGG G CAGCAGAC	374	CTGCCCAG GGCTAGCTACAACGA GGGTAGAG	2075
1592	ACUGGGCA G CAGACAAA	375	GTCTGCTG GGCTAGCTACAACGA CCAGTGGG	2076
1596	GGCAGCAG A CAAAUCCU	ļ	TTTGTCTG GGCTAGCTACAACGA TGCCCAGT	2077
1600	GCAGACAA A UCCUGACU	376	AGGATTTG GGCTAGCTACAACGA CTGCTGCC	2078
		377	AGTCAGGA GGCTAGCTACAACGA TTGTCTGC	2079
1606	AAAUCCUG A CUUGUACC	378	GGTACAAG GGCTACGTACGACGA CAGGATTT	2080
	CCUGACUU G UACCGCAU	379	ATGCGGTA GGCTAGCTACAACGA AAGTCAGG	2081
1612	UGACUUGU A CCGCAUAU	380	ATATGCGG GGCTAGCTACAACGA ACAAGTCA	2082
1615	CUUGUACC G CAUAUGGU	381	ACCATATG GGCTAGCTACAACGA GGTACAAG	2083
1617	UGUACCGC A UAUGGUAU	382	ATACCATA GGCTAGCTACAACGA GCGGTACA	2084
1619	UACCGCAU A UGGUAUCC	383	GGATACCA GGCTAGCTACAACGA ATGCGGTA	2085
1622	CGCAUAUG G UAUCCCUC	384	GAGGGATA GGCTAGCTACAACGA CATATGCG	2086
1624	CAUAUGGU A UCCCUCAA	385	TTGAGGGA GGCTAGCTACAACGA ACCATATG	2087
1632	AUCCCUCA A CCUACAAU	386	ATTGTAGG GGCTAGCTACAACGA TGAGGGAT	2088
1636	CUCAACCU A CAAUCAAG	387	CTTGATTG GGCTAGCTACAACGA AGGTTGAG	2089
1639	AACCUACA A UCAAGUGG	388	CCACTTGA GGCTAGCTACAACGA TGTAGGTT	2090
1644	ACAAUCAA G UGGUUCUG	389	CAGAACCA GGCTAGCTACAACGA TTGATTGT	2091
1647	AUCAAGUG G UUCUGGCA	390	TGCCAGAA GGCTAGCTACAACGA CACTTGAT	2092
1653	UGGUUCUG G CACCCCUG	391	CAGGGGTG GGCTAGCTACAACGA CAGAACCA	2093
1655	GUUCUGGC A CCCCUGUA	392	TACAGGGG GGCTAGCTACAACGA GCCAGAAC	2094
1661	GCACCCCU G UAACCAUA	393	TATGGTTA GGCTAGCTACAACGA AGGGGTGC	2095
1664	CCCCUGUA A CCAUAAUC	394	GATTATGG GGCTAGCTACAACGA TACAGGGG	2096
1667	CUGUAACC A UAAUCAUU	395	AATGATTA GGCTAGCTACAACGA GGTTACAG	2097
1670	UAACCAUA A UCAUUCCG	396	CGGAATGA GGCTAGCTACAACGA TATGGTTA	2098
1673	CCAUAAUC A UUCCGAAG	397	CTTCGGAA GGCTAGCTACAACGA GATTATGG	2099
1681	AUUCCGAA G CAAGGUGU	398	ACACCTTG GGCTAGCTACAACGA TTCGGAAT	2100
1686	GAAGCAAG G UGUGACUU	399	AAGTCACA GGCTAGCTACAACGA CTTGCTTC	2101
1688	AGCAAGGU G UGACUUUU	400	AAAAGTCA GGCTAGCTACAACGA ACCTTGCT	2102
1691	AAGGUGUG A CUUUUGUU	401	AACAAAAG GGCTAGCTACAACGA CACACCTT	2103
1697	UGACUUUU G UUCCAAUA	402	TATTGGAA GGCTAGCTACAACGA AAAAGTCA	2104
1703	UUGUUCCA A UAAUGAAG	403	CTTCATTA GGCTAGCTACAACGA TGGAACAA	2105
1706	UUCCAAUA A UGAAGAGU	404	ACTCTTCA GGCTAGCTACAACGA TATTGGAA	2106
1713	AAUGAAGA G UCCUUUAU	405	ATAAAGGA GGCTAGCTACAACGA TCTTCATT	2107
1720	AGUCCUUU A UCCUGGAU	406	ATCCAGGA GGCTAGCTACAACGA AAAGGACT	2108
1727	UAUCCUGG A UGCUGACA	407	TGTCAGCA GGCTAGCTACAACGA CCAGGATA	2109
1729	UCCUGGAU G CUGACAGC	408	GCTGTCAG GGCTAGCTACAACGA ATCCAGGA	2110
1733	GGAUGCUG A CAGCAACA	409	TGTTGCTG GGCTAGCTACAACGA CAGCATCC	2111
1736	UGCUGACA G CAACAUGG	410	CCATGTTG GGCTAGCTACAACGA TGTCAGCA	2112
1739	UGACAGCA A CAUGGGAA	411	TTCCCATG GGCTAGCTACAACGA TGCTGTCA	2113
1741	ACAGCAAC A UGGGAAAC	412	GTTTCCCA GGCTAGCTACAACGA GTTGCTGT	2114

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7740	CALICOCA A CACABINE	472	CARREST COMPAGNACIA CAR EMOCCAMO	2115
1748	CAUGGGAA A CAGAAUUG	413	CAATTCTG GGCTAGCTACAACGA TTCCCATG	2115
1753	GAAACAGA A UUGAGAGC	414	GCTCTCAA GGCTAGCTACAACGA TCTGTTTC	2116
1760	AAUUGAGA G CAUCACUC	415	GAGTGATG GGCTAGCTACAACGA TCTCAATT	2117
1762	UUGAGAGC A UCACUCAG	416	CTGAGTGA GGCTAGCTACAACGA GCTCTCAA	2118
1765	AGAGCAUC A CUCAGCGC	417	GCGCTGAG GGCTAGCTACAACGA GATGCTCT	2119
1770	AUCACUCA G CGCAUGGC	418	GCCATGCG GGCTAGCTACAACGA TGAGTGAT	2120
1772	CACUCAGC G CAUGGCAA	419	TTGCCATG GGCTAGCTACAACGA GCTGAGTG	2121
1774	CUCAGCGC A UGGCAAUA	420	TATTGCCA GGCTAGCTACAACGA GCGCTGAG	2122
1777	AGCGCAUG G CAAUAAUA	421	TATTATTG GGCTAGCTACAACGA CATGCGCT	2123
1780	GCAUGGCA A UAAUAGAA	422	TTCTATTA GGCTAGCTACAACGA TGCCATGC	2124
1783	UGGCAAUA A UAGAAGGA	423	TCCTTCTA GGCTAGCTACAACGA TATTGCCA	2125
1796	AGGAAAGA A UAAGAUGG	424	CCATCTTA GGCTAGCTACAACGA TCTTTCCT	2126
1801	AGAAUAAG A UGGCUAGC	425	GCTAGCCA GGCTAGCTACAACGA CTTATTCT	2127
1804	AUAAGAUG G CUAGCACC	426	GGTGCTAG GGCTAGCTACAACGA CATCTTAT	2128
1808	GAUGGCUA G CACCUUGG	427	CCAAGGTG GGCTAGCTACAACGA TAGCCATC	2129
1810	UGGCUAGC A CCUUGGUU	428	AACCAAGG GGCTAGCTACAACGA GCTAGCCA	2130
1816	GCACCUUG G UUGUGGCU	429	AGCCACAA GGCTAGCTACAACGA CAAGGTGC	2131
1819	CCUUGGUU G UGGCUGAC	430	GTCAGCCA GGCTAGCTACAACGA AACCAAGG	2132
1822	UGGUUGUG G CUGACUCU	431	AGAGTCAG GGCTAGCTACAACGA CACAACCA	2133
1826	UGUGGCUG A CUCUAGAA	432	TTCTAGAG GGCTAGCTACAACGA CAGCCACA	2134
1834	ACUCUAGA A UUUCUGGA	433	TCCAGAAA GGCTAGCTACAACGA TCTAGAGT	2135
1843	UUUCUGGA A UCUACAUU	434	AATGTAGA GGCTAGCTACAACGA TCCAGAAA	2136
1847	UGGAAUCU A CAUUUGCA	435	TGCAAATG GGCTAGCTACAACGA AGATTCCA	2137
1849	GAAUCUAC A UUUGCAUA	436	TATGCAAA GGCTAGCTACAACGA GTAGATTC	2138
1853	CUACAUUU G CAUAGCUU	437	AAGCTATG GGCTAGCTACAACGA AAATGTAG	2139
1855	ACAUUUGC A UAGCUUCC	438	GGAAGCTA GGCTAGCTACAACGA GCAAATGT	2140
1858	UUUGCAUA G CUUCCAAU	439	ATTGGAAG GGCTAGCTACAACGA TATGCAAA	2141
1865	AGCUUCCA A UAAAGUUG	440	CAACTITA GGCTAGCTACAACGA TGGAAGCT	2142
1870	CCAAUAAA G UUGGGACU	441	AGTCCCAA GGCTAGCTACAACGA TTTATTGG	2143
1876	AAGUUGGG A CUGUGGGA	442	TCCCACAG GGCTAGCTACAACGA CCCAACTT	2144
1879	UUGGGACU G UGGGAAGA	443	TCTTCCCA GGCTAGCTACAACGA AGTCCCAA	2145
1889	GGGAAGAA A CAUAAGCU	444	AGCTTATG GGCTAGCTACAACGA TTCTTCCC	2146
1891	GAAGAAAC A UAAGCUUU	445	AAAGCTTA GGCTAGCTACAACGA GTTTCTTC	2147
1895	AAACAUAA G CUUUUAUA	446	TATAAAAG GGCTAGCTACAACGA TTATGTTT	2148
1901	AAGCUUUU A UAUCACAG	447	CTGTGATA GGCTAGCTACAACGA AAAAGCTT	2149
1903	GCUUUUAU A UCACAGAU	448	ATCTGTGA GGCTAGCTACAACGA ATAAAAGC	2150
1906	UUUAUAUC A CAGAUGUG	449	CACATCTG GGCTAGCTACAACGA GATATAAA	2151
1910	UAUCACAG A UGUGCCAA	450	TTGGCACA GGCTAGCTACAACGA CTGTGATA	2152
1912	UCACAGAU G UGCCAAAU	451	ATTTGGCA GGCTAGCTACAACGA ATCTGTGA	2153
1914	ACAGAUGU G CCAAAUGG	452	CCATTTGG GGCTAGCTACAACGA ACATCTGT	2154
1919	UGUGCCAA A UGGGUUUC	453	GAAACCCA GGCTAGCTACAACGA TTGGCACA	2155
1923	CCAAAUGG G UUUCAUGU	454	ACATGAAA GGCTAGCTACAACGA CCATTTGG	2156
1928	UGGGUUUC A UGUUAACU	455	AGTTAACA GGCTAGCTACAACGA GAAACCCA	2157
1930	GGUUUCAU G UUAACUUG	456	CAAGTTAA GGCTAGCTACAACGA ATGAAACC	2158
1934	UCAUGUUA A CUUGGAAA	457	TTTCCAAG GGCTAGCTACAACGA TAACATGA	2159
1945	UGGAAAAA A UGCCGACG	458	CGTCGGCA GGCTAGCTACAACGA TTTTTCCA	2160
1947	GAAAAAAU G CCGACGGA	459	TCCGTCGG GGCTAGCTACAACGA ATTTTTTC	2161
1951	AAAUGCCG A CGGAAGGA	460	TCCTTCCG GGCTAGCTACAACGA CGGCATTT	2162
1964	AGGAGAGG A CCUGAAAC	461	GTTTCAGG GGCTAGCTACAACGA CCTCTCCT	2163
1971	GACCUGAA A CUGUCUUG	462	CAAGACAG GGCTAGCTACAACGA TTCAGGTC	2164
1974	CUGAAACU G UCUUGCAC	463	GTGCAAGA GGCTACCTACAACGA AGTTTCAG	2165
1979	ACUGUCUU G CACAGUUA	464	TAACTGTG GGCTAGCTACAACGA AAGACAGT	2166

1981	UGUCUUGC A CAGUUAAC	465	GTTAACTG GGCTAGCTACAACGA GCAAGACA	2167
1984	CUUGCACA G UUAACAAG	466	CTTGTTAA GGCTAGCTACAACGA TGTGCAAG	2168
1988	CACAGUUA A CAAGUUCU	467	AGAACTTG GGCTAGCTACAACGA TAACTGTG	2169
1992	GUUAACAA G UUCUUAUA	468	TATAAGAA GGCTAGCTACAACGA TTGTTAAC	2170
1998	AAGUUCUU A UACAGAGA	469	TCTCTGTA GGCTAGCTACAACGA AAGAACTT	2171
2000	GUUCUUAU A CAGAGACG	470	CGTCTCTG GGCTAGCTACAACGA ATAAGAAC	2172
2006	AUACAGAG A CGUUACUU	471	AAGTAACG GGCTAGCTACAACGA CTCTGTAT	2173
2008	ACAGAGAC G UUACUUGG	472	CCAAGTAA GGCTAGCTACAACGA GTCTCTGT	2174
2011	GAGACGUU A CUUGGAUU	473	AATCCAAG GGCTAGCTACAACGA AACGTCTC	2175
2017	UUACUUGG A UUUUACUG	474	CAGTAAAA GGCTAGCTACAACGA CCAAGTAA	2176
2022	UGGAUUUU A CUGCGGAC	475	GTCCGCAG GGCTAGCTACAACGA AAAATCCA	2177
2025	AUUUUACU G CGGACAGU	476	ACTGTCCG GGCTAGCTACAACGA AGTAAAAT	2178
2029	UACUGCGG A CAGUUAAU	477	ATTAACTG GGCTAGCTACAACGA CCGCAGTA	2179
2032	UGCGGACA G UUAAUAAC	478	GTTATTAA GGCTAGCTACAACGA TGTCCGCA	2180
2036	GACAGUUA A UAACAGAA	479	TTCTGTTA GGCTAGCTACAACGA TAACTGTC	2181
2039	AGUUAAUA A CAGAACAA	480	TIGITCIG GGCTAGCTACAACGA TATTAACT	2182
2044	AUAACAGA A CAAUGCAC	481	GTGCATTG GGCTAGCTACAACGA TCTGTTAT	2183
2047	ACAGAACA A UGCACUAC	482	GTAGTGCA GGCTAGCTACAACGA TGTTCTGT	2184
2049	AGAACAAU G CACUACAG	483	CTGTAGTG GGCTAGCTACAACGA ATTGTTCT	2185
2051	AACAAUGC A CUACAGUA	484	TACTGTAG GGCTAGCTACAACGA GCATTGTT	2186
2054	AAUGCACU A CAGUAUUA	485	TAATACTG GGCTAGCTACAACGA AGTGCATT	2187
2057	GCACUACA G UAUUAGCA	486	TGCTAATA GGCTAGCTACAACGA TGTAGTGC	2188
2059	ACUACAGU A UUAGCAAG	487	CTTGCTAA GGCTAGCTACAACGA ACTGTAGT	2189
2063	CAGUAUUA G CAAGCAAA	488	TTTGCTTG GGCTAGCTACAACGA TAATACTG	2190
2067	AUUAGCAA G CAAAAAAU	489	ATTTTTTG GGCTAGCTACAACGA TTGCTAAT	2191
2074	AGCAAAAA A UGGCCAUC	490	GATGGCCA GGCTAGCTACAACGA TTTTTGCT	2192
2077	AAAAAAUG G CCAUCACU	491	AGTGATGG GGCTAGCTACAACGA CATTTTT	2193
2080	AAAUGGCC A UCACUAAG	492	CTTAGTGA GGCTAGCTACAACGA GGCCATTT	2194
2083	UGGCCAUC A CUAAGGAG	493	CTCCTTAG GGCTAGCTACAACGA GATGGCCA	2195
2091	ACUAAGGA G CACUCCAU	494	ATGGAGTG GGCTAGCTACAACGA TCCTTAGT	2196
2093	UAAGGAGC A CUCCAUCA	495	TGATGGAG GGCTAGCTACAACGA GCTCCTTA	2197
2098	AGCACUCC A UCACUCUU	496	AAGAGTGA GGCTAGCTACAACGA GGAGTGCT	2198
2101	ACUCCAUC A CUCUUAAU	497	ATTAAGAG GGCTAGCTACAACGA GATGGAGT	2199
2108	CACUCUUA A UCUUACCA	498	TGGTAAGA GGCTAGCTACAACGA TAAGAGTG	2200
2113	UUAAUCUU A CCAUCAUG	499	CATGATGG GGCTAGCTACAACGA AAGATTAA	2201
2116	AUCUUACC A UCAUGAAU	500	ATTCATGA GGCTAGCTACAACGA GGTAAGAT	2202
2119	UUACCAUC A UGAAUGUU	501	AACATTCA GGCTAGCTACAACGA GATGGTAA	2203
2123	CAUCAUGA A UGUUUCCC	502	GGGAAACA GGCTAGCTACAACGA TCATGATG	2204
2125	UCAUGAAU G UUUCCCUG	503	CAGGGAAA GGCTAGCTACAACGA ATTCATGA	2205
2133	GUUUCCCU G CAAGAUUC	504	GAATCTTG GGCTAGCTACAACGA AGGGAAAC	2206
2138	CCUGCAAG A UUCAGGCA	505	TGCCTGAA GGCTAGCTACAACGA CTTGCAGG	2207
2144	AGAUUCAG G CACCUAUG	506	CATAGGTG GGCTAGCTACAACGA CTGAATCT	2208
2146	AUUCAGGC A CCUAUGCC	507	GGCATAGG GGCTAGCTACAACGA GCCTGAAT	2209
2150	AGGCACCU A UGCCUGCA	508	TGCAGGCA GGCTAGCTACAACGA AGGTGCCT	2210
2152	GCACCUAU G CCUGCAGA	509	TCTGCAGG GGCTAGCTACAACGA ATAGGTGC	
2156	CUAUGCCU G CAGAGCCA	510	TGGCTCTG GGCTAGCTACAACGA AGGCATAG	2211
2161	CCUGCAGA G CCAGGAAU	511	ATTCCTGG GGCTAGCTACAACGA TCTGCAGG	2212
2168	AGCCAGGA A UGUAUACA	512	TGTATACA GGCTAGCTACAACGA TCTGCAGG	2213
2170	CCAGGAAU G UAUACACA	513		2214
2172	AGGAAUGU A UACACAGG	514	TGTGTATA GGCTAGCTACAACGA ATTCCTGG	2215
2174	GAAUGUAU A CACAGGGG	515	CCCCTGTG CCCTA COTA CA A CCA A TRA CA TITICO	2216
2176	AUGUAUAC A CAGGGGAA	516	CCCCTGTG GGCTAGCTACAACGA ATACATTC	2217
	ANDERDAN A SACTOSSIT	240	TTCCCCTG GGCTAGCTACAACGA GTATACAT	2218

2188 GGGAGGA A UCCUCCAG 517 CTGGAGGA GCTAGCTACAGGS TTCTTCCT 2219 2209 AAGARAU A CANUCAGA 518 GATTGTTA GCCTAGCTACACGA TATTCTTCT 2221 2219 AAGARAU A CANUCAGA 519 TCTGATTG GGCTAGCTACAAGGA TCTTCTTCT 2221 2219 AAGCAGGA CCACAUAC 520 ATCTGTGA GCCTAGCTACAAGGA TCTGTGAT 2222 22219 AACCAGGA G CACCAUAC 521 CTTCCTGA GGCTAGCTACAAGGA TCTCTGAT 2224 22220 CAGGAGG C CCAUACC 522 GTATGGTG GGCTAGCTACAAGGA TCTCTGAT 2224 22221 CAGGAGG C CCAUACC 524 AGGAGGTA GGCTAGCTACAAGGA TCTCTGAT 2225 22222 CAGGAGCC A CCAUACCU 524 AGGAGGTA GGCTAGCTACAAGGA GGTTGCTTC 2225 22232 GAAGCACC A UACCUCCU 524 AGGAGGTA GGCTAGCTACAAGGA GGTTGCTTC 2226 22241 AGCACCAU A CCUCCUGC 525 CAGGAGG GGCTAGCTACAAGGA AGGAGGTA 2228 22441 AGCACCAU A CCUCCUGC 526 CAGGAGG GGCTAGCTACAAGGA AGGAGGTA 2228 2245 CCUCGGGA A CCUCAGUG 527 CACTGAGG GGCTAGCTACAAGGA AGGAGGTA 2228 2246 CCUCGGGA A CCUCAGUG 527 CACTGAGG GGCTAGCTACAAGGA AGGAGGTA 2228 2255 CCUCAGUG A LUCACACAG 529 CTTGTTGA GGCTAGCTACAAGGA AGGAGTTA 2230 2256 GUGAUCAC A CAGGUGG 530 CCACTGTG GGCTAGCTACAAGGA AGTCACTO 2231 2266 GUGAUCAC A CAGGUGGC 531 GGCCACTG GGCTAGCTACAAGGA ATCACTO 2232 2266 GUGAUCAC A CAGGUGGC 532 GATGGCCA GGCTAGCTACAAGGA ATCACTO 2234 2266 ACACAGUG G CCAUCAGGC 533 GCTGATGG GGCTAGCTACAAGGA ATCACTO 2234 2266 ACACAGUG G CCAUCAGC 533 GCTGATGG GGCTAGCTACAAGGA ACTGTTGT 2234 2266 ACACAGUG G CCAUCAGC 533 GCTGATGG GGCTAGCTACAAGGA ACTGTTGT 2234 2267 CAUCAGCA G UUCCACCA 535 TGGAACTG GGCTAGCTACAAGGA ACTGTTGT 2235 2268 CAGUGGCC M LUCACAGA 534 ACTGTGTA GAGCTACAACGA ACTGTTGT 2236 2276 CAUCAGCA G UUCCACCA 535 TGGAACTG GGCTAGCTACAAGGA ACTGTTGT 2236 2277 GCCCAUCAG G CCTUUAA 537 TAAGGTG GGCTAGCTACAAGGA ACTGTTGT 2236 2278 GUUUCAC A CUUUAA 537 TAAGGTG GGCTAGCTACAAGGA ACTGTTATA 2231 2281 CCAUUAG A CUUUAAAA 541 CATTAGCA GGCTAGCTACAAGGA ACTGTATA 2242 2291 CUUUAAAA CACCAGAG					
2019 ANGARADU A CANUCAGA 519 TCTGATTG GGCTAGCTACGAGA ANTTCTT 2221	2188	GGGAAGAA A UCCUCCAG	517	CTGGAGGA GGCTAGCTACAACGA TTCTTCCC	2219
2212 AAAUUACA A UCAGAGAU 520 ATCTCTGA GGCTAGCTACAGGA TGTAATTT 2222 2227 AUCAGAGAA G CACCAUAC 521 CTTCCTGA GGCTAGCTACAGAGA CTCTGATT 2224 2227 CACAGAGA 522 GTTGGTGA GTCTGATT 2224 2222 CAGGAGAC A CACCAUAC 522 AGGAGTAGCTACAAGA GTTTCCTG 2225 2232 CAGGAGCAC A CCUCCUC 524 AGGAGGTAGCTACAAGAA GTTTCCTG 2225 2234 AGCACCAU A CCUCCUC 525 GGCAGGGTAGCTACAAGAA ATGGTTCTC 2227 2241 UACCUCCU GCAACACCUC 526 AGGTTTCG GGCTAGCTACAACGA ATGGTTCCAAGA 2228 2246 CCUGGGAA A CCUCAGUG 527 CACTGAGG GGCTAGCTACAACGA ATGGTTC 2229 2255 CAGUAGAC 528 CTGTGTGGTACAACGA TCAGGA TCACCAGG 2221 2256 CACUAGAC 530 CCACTGTG GGCTAGCTACAACGA TCACCAGG 2223 2260 GJGALUCAC A CAGUGGC 531 GGCAACCACACAACAACAAAAAAAAAAAAAAAAAAAAA	2206	AGAAAGAA A UUACAAUC	518	GATTGTAA GGCTAGCTACAACGA TTCTTTCT	2220
2219	2209	AAGAAAUU A CAAUCAGA	519	TCTGATTG GGCTAGCTACAACGA AATTTCTT	2221
2227 AUCAGGAA G CACLAUAC 522 GTATGOTG GGCTAGCTACAGGA TTCCTGAT 2224	2212	AAAUUACA A UCAGAGAU	520	ATCTCTGA GGCTAGCTACAACGA TGTAATTT	2222
2229	2219	AAUCAGAG A UCAGGAAG	521	CTTCCTGA GGCTAGCTACAACGA CTCTGATT	2223
2232 GARGCACC A UACCUCCU 524 AGGAGGTA GGCTAGCTACAAGA GGTGCTTC 2226 22341 AGGACCAU A CCUCCUGC 525 GCAGGAGG GGCTAGCTACAAGA ATGGTGCT 2227 2241 LACCUCCU G GAAACCU 526 AGGTTTTCG GGCTAGCTACAAGA AGGAGTTA 2228 2246 CCUGGGA A CUCAGUG 527 CACTGGG GGCTAGCTACAAGA TTCGCAGG 2229 2255 CAUCAGUG 10 MACACAGA 529 CTOTTGTA GGCTAGCTACAAGA GATCACTG 2231 2255 CAUCAGUG 520 GGCTAGCTACAAGA GATCACTG 2232 2260 GUBAUCAC A CAGUGGC 531 GGCCACTG GGCTAGCTACAAGGA GTGATCAC 2232 2263 AUCACACA G UGGCCAU 532 GATGGCA GGCTAGCTACAAGA CATCGTGT 2235 2265 CAGUGGC A UCAGCAGC 533 GCTGATGT GGCTAGCTACAAGA CACTGTGT 2235 2266 CACAUCAG C CAGUUCA 535 TGGATGACTACAAGA TCTGAACA CACTGTT 2235 2277 GCCAUCA C CACCUUCA 536 TGGATGACTACAACGA TAGATCAACA 2239 2241 <t< td=""><td>2227</td><td>AUCAGGAA G CACCAUAC</td><td>522</td><td>GTATGGTG GGCTAGCTACAACGA TTCCTGAT</td><td>2224</td></t<>	2227	AUCAGGAA G CACCAUAC	522	GTATGGTG GGCTAGCTACAACGA TTCCTGAT	2224
2234 AGCACCAU A CCUCCUGC 525 GCAGGAGG GCTACCTACAACA ATGGTGCT 2227 2241 UACCUCCU G CGAAACU 526 AGGTTGCTACAACGA AGGAGGTA 2228 2246 CCUGGGAA A CCUCAGUG 527 CACTGAGG GCTACCTACAACGA TGGAGG 2229 2252 AAACCUCA G UGAUCACA 528 TGTGATCA GCTACCAACGA TGAGT 2230 2255 CCUCAGUG A UCACACAG 529 CTGTGTGA GCTACCAACGA TGAGTA 2231 2260 GUGAUCAC A CACAGUGG 530 CCACTGTG GCTACCACAGA GTGATCACACGA GTGATCAC 2232 2260 GUGALCAC A CAGUGGC 531 GGCCACTG GGCTACCACACAGA GTGCTACACACA TGTGTGT 2232 2263 AUCACACA G UGCCACCA 532 GATGGCCA GCTACCACACA TGTGTTGATCACACA TGTGTTGAT 2236 2269 CAGUGGC A UCAGCAGU 534 ACTGCTGA GCTACCACACA TGTGTTACACACA TGTGTTGAT 2236 2273 GGCCAUCA G CAGUUCCA 535 TGGACTACGTACACACA TGTATCACACA 2236 2274 CAUCAGA G UCACACA 537 TAAAGTGG GCTACCTACAACACA TAAACACA 2239 2281 GCACGUUCA 538 TGATGATAG GGACACA 2	2229	CAGGAAGC A CCAUACCU	523	AGGTATGG GGCTAGCTACAACGA GCTTCCTG	2225
2241 UACCUCCU G CGARACCU 526 AGGTTTCG GGCTAGCTACAACGA AGGAGGTA 2228 2246 CCUGGGAA A CCUCAGUG 527 CACTGAGG GGCTAGCTACAACGA TGAGGGT 2230 2252 AAACCUCA G UGAUCACA 528 TGGGTGG 2231 2255 CCUCAGUG A UCACACAG 529 CTGTGTG GGCTAGCTACAACGA CACTGAGG 2231 2256 CCUCAGUG A CAGGUGGC 531 GGCCACTG GGCTAGCTACAACGA GTGATCCT 2232 2260 GUGAUCAC A CAGGUGGC 531 GGCCACTG GGCTAGCTACAACGA GTGATCCT 2234 2263 AUCACACA G UGGCCACC 532 GATGGCG GGCTAGCTACAACGA GTGATGG 2234 2266 CAGUGGC G UCAGCC 534 ACTGCTGG GGCTAGCTACAACGA GCATGGTACAACGA CACTGTGT 2235 2273 GGCCAUCA G CAGUUCA 535 TGGTGAA GGCTAGCTACAACGA GTGATGA 2236 2237 2281 GCAGUUCC A CACUUUA 537 TAAAGTGG GGCTAGCTACAACGA GGCTAGCTACAACGA GGCTAGCTACAACGA GGCTAGCTACAACGA GGCTAGCTACAACGA<	2232	GAAGCACC A UACCUCCU	524	AGGAGGTA GGCTAGCTACAACGA GGTGCTTC	2226
2246 CCUGGGAA A CCUCAGUG 527 CACTGAGG GCTAGCTACAACGA TCGCAGG 2229 2252 AAACCUCA G UGAUCACA 528 TGTGATCA GGCTACGTACAACGA TGAGGTT 2230 2255 CCUCAGUG A UCACACAG 529 CTGTGTGA GGCTACGTACAACGA CACTGAGG 2231 2258 CAGUCAUC A CAGUGGG 530 CCACTGTG GGCTACGTACAACGA GTGATCA 2232 2260 GUGALCAC A CAGUGGC 531 GGCACTG GGCTACAACGA GTGATCAACGA CTGGTGTG 2263 AUCACACA G UGGCCAUC 532 GATGGTGA GGCTACAACGA CAGTGTGTC 2232 2266 ACACAGUG G CCAUCAGC 533 GCTGATGG GGCTACCTACAACGA CAGTGTGT 2235 2269 CAGUGGCA UCAGCAGU 534 ACTGCTGA GGCTAGCTACAACGA TGCTACT 2236 2276 CAUCAGAC A CACUUUA 537 TAAAGTG GGCTACCTACAACGA TGCTACA 2236 2281 GCAGUUC A CACUUUA 537 TAAAGTG GGCTACCTACAACGA GGAACCA 2240 2291 CACUUUAGA C UGGUCAUG 538 GTGACAG GGCTACCTACAACGA GACTAAA 2241 2294 UUUAGACU G UGAUGGU 540 <td>2234</td> <td>AGCACCAU A CCUCCUGC</td> <td>525</td> <td>GCAGGAGG GGCTAGCTACAACGA ATGGTGCT</td> <td>2227</td>	2234	AGCACCAU A CCUCCUGC	525	GCAGGAGG GGCTAGCTACAACGA ATGGTGCT	2227
2252 AAACCUCA G UGAUCACA 528 TGTGATCA GGCTAGCTACAAGA TGAGGTT 2230 2255 CCUCAGUG A UCACACAG 529 CTGTGTGA GGCTAGCTACAAGA CACTGAGG 2231 2258 CAGUGAUC A CACAGUGG 530 CCACTGTG GGCTAGCTACAAGA GATCATC 2232 2260 GUGAUCAC A CAGUGGC 531 GGCCACTG GGCTAGCTACAAGA TGTGTGA 2233 2263 AUCACACA G UGGCCAUC 532 GATGGCA GGCTAGCTACAAGA TGTGTGA 2234 2266 CAGUGGC A UCAGCA 533 GCTGATGG GGCTAGCTACAAGA TGTGTGA 2236 2267 CAGUGCC A UCAGCA 535 TGGAACTG GGCTAGCTACAAGA TGTGTGC 2236 2273 GGCCAUCA G CAGUUCA 535 TGGTGAA GGCTAGCTACAAGA TGTGGAC 2236 2281 GCAGUUCA A CACAUUA 537 TAAAGTGG GGCTAGCTACAAGA TGTGGAC 2239 2284 GUUCACC A CUUUAGAC 538 GCTCAAAG GGCTAGCTACAAGA GGTGGAACTC 2232 2294 CAUUAGAC 4 UCALAGUGA 540 TACATTGA GGCTAGCTACAAGA ACTATAGA 2241 2297 AGACUGUA A UGCAAAG 541 CATTAGCA GGCTAGCTACAAGA ACTAG	2241	UACCUCCU G CGAAACCU	526	AGGTTTCG GGCTAGCTACAACGA AGGAGGTA	2228
2255 CCUCAGUG A UCACACAG 529 CTOTGTGA GGCTAGCTACAACGA CACTGAGG 2231 2258 CAGUGAUC A CAGUGGC 530 CCACTGTG GGCTAGCTACAACGA GATCACTCA 2232 2260 GUGAUCAC A CAGUGGCC 531 GGCCACTG GGCTAGCTACAACGA GTGATCAC 2233 2263 AUCACACA & UGGCCAUC 532 GATGGCA GCTAGCTACAACGA GTGATCACACGA 2234 2266 ACACAGUG G CAUCAGC 533 GCTGATGG GGCTACTACAACGA CACTGTGT 2235 2267 CAGUCGC A CAGUCCA 534 ACTGCTAG GGCTAGCTACAACGA TGCTGTG 2236 2273 GGCCAUCA G CAGUUCA 535 TGGAGTAG GGCTAGCTACAACGA TGCTGTG 2238 2281 GCAGUUCC A CACUUUA 537 TAAAGTG GGCTAGCTACAACGA TGCTGTG 2238 2284 GUUCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA CTAAAGTG 2242 2291 CACUUUAGAC 539 CATGACA GGCTAGCTACAACGA CTAAAGT 2241 2292 LOUUAGACU A UGCUALU 537 TAAAATTGCACAACGA CTAAACGA CTAAACGA CTAAACGA 2241 2294 LUULAGACU A UGCUALUAGA 540 TACGATTAG GGCTACCAACGA CACAACAA 2241	2246	CCUGCGAA A CCUCAGUG	527	CACTGAGG GGCTAGCTACAACGA TTCGCAGG	2229
225B CAGUGAUC A CACAGUGG 530 CCACTGTG GGCTAGCTACAACGA GATCACTG 2232 2260 GUGALOAC A CAGUGGCC 531 GGCCACTG GGCTAGCTACAACGA GTGATCAC 2233 2263 AUCACACA G UGGCCAUC 532 GATGGCCA GGCTAGCTACAACGA TGTGTGAT 2234 2266 ACACAGUG G CADUCAC 533 GGTGATGG GGCTAGCTACAACGA CACTGTGT 2235 2269 CAGUGGCC A UCAGCAGU 534 ACTGCTGA GGCTAGCTACAACGA TGATGGCC 2236 2273 GGCCAUCA G CAGUUCCA 535 TGGATGAG AGCTAGCTACAACGA TGATGGCC 2237 2276 CAUCAGCA G UUCCACCA 535 TGGAGA GGCTAGCTACAACGA TGATGGCC 2237 2281 GCAGUUCA C ACACUUUA 537 TAAAGTG GGCTAGCTACAACGA TGATGACCA 2240 2294 GUUCACCA C ACUUAGAG 538 GTCTAAAA GGCTAGCTACAACGA AGTCTAAA 2242 2294 UUUAGACU G UCAUGUG 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2294 ACUGUCAU G CUAAUGGU 541 CATTAGCA GGCTAGCTACAACGA ATGACATC 2243 2299 ACUGUCAU G UCAAUGGU 542 ACCATTAG GGCTACTACAACGA ATGACATC 2243<	2252	AAACCUCA G UGAUCACA	528	TGTGATCA GGCTAGCTACAACGA TGAGGTTT	2230
2260 GUGAUCAC A CAGUGGCC 531 GGCCACTG GGTAGCTACAACGA GTGATCAC 2233 2263 AUCACACA G UGGCCAUC 532 GATGGCCA GGCTAGCTTACAACGA TGTGTGAT 2234 2266 ACACAGUG G CCAUCAGC 533 GCTGATGG GGCTAGCTACAACGA CACTGTGT 2235 2269 CAGUGGC A UCAGCAGU 534 ACTGGTGA GGCTAGCTACAACGA TGATGGCC 2237 2273 GGCCAUCA G CAGUUCCA 535 TGGACTG GGCTAGCTACAACGA TGATGGCC 2237 2276 CAUCAGCA G UUCCACCA 536 TGGTGGAA GGCTAGCTACAACGA TGATGGCC 2239 2284 GUUCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA GGTAGACT 2239 2291 CACUUUAGA C UCAUGUA 539 CATGACAG GGCTAGCTACAACGA AGACTAAAGA 2240 2294 UUUAGACU G UCAUGUA 540 TAGCATGA GGCTAGCTACAACGA AGACTAAA 2241 2297 ACAUGUAU G CUAAUGU 541 CATTAGCA GGCTAGCTACAACGA AGACTTAAA 2242 2299 ACUGUCAU G CUAAUGU 542 ACCATTAG GGCTAGCTACAACGA ACCATTAGCA 2244 2306 UGCUCAUGAU G UGUCCCGA 543 CGGGGACACCA GGCTAGCTACAACGA ACCAT	2255	CCUCAGUG A UCACACAG	529	CTGTGTGA GGCTAGCTACAACGA CACTGAGG	2231
2263 AUCACACA & UGGCCAUC 532 GATGGCCA GGCTAGCTACAACGA TGTGTGAT 2234 2266 ACACAGUG & CCAUCAGC 533 GCTGATGG GGCTAGCTACAACGA CACTGTT 2236 2269 CAGUGGCC A UCAGCAGU 534 ACTGCTGA GGCTAGCTACAACGA GGCCACTG 2236 2273 GGCCAUCA G CAGUUCCA 535 TGGAACTG GGCTAGCTACAACGA TGATGGC 2237 2276 CAUCAGCA G UUCCACCA 536 TGGTGAGA GGCTAGCTACAACGA TGATGGC 2238 2281 GCAGUUCA A CACUUUAGAC 537 TAAAGTGG GGCTAGCTACAACGA GGAACTC 2230 2294 GUUCACCA C UUUAGAC 539 CATGACAG GGCTAGCTACAACGA GGTGAACT 2241 2294 UUUAGACU G UCAUGCUA 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2297 ACCUUUAG A UGUUAUG 541 CATTAGCA GGCTAGCTACAACGA AGTCACAT 2242 2299 ACUGUCAU G UGALAUGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAT 2245 2299 ACUGUCAU G UGALAUGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAT 2245 2303 UCAUGUGU A UGGUCCCG 542 CGGGGAC GGCTAGCTACAACGA ATGACAT 2246 <td>2258</td> <td>CAGUGAUC A CACAGUGG</td> <td>530</td> <td>CCACTGTG GGCTAGCTACAACGA GATCACTG</td> <td>2232</td>	2258	CAGUGAUC A CACAGUGG	530	CCACTGTG GGCTAGCTACAACGA GATCACTG	2232
2266 ACACAGUG G CCAUCAGC 533 GCTGATGG GGCTAGCTACAACGA CACTGTGT 2235 2269 CAGUGGC A UCAGCAGU 534 ACTGCTGA GGCTAGCTACAACGA GGCCACT 2236 2273 GGCCAUCA G CAGUUCCA 535 TGGAACTG GGCTAGCTACAACGA TGATGCC 2237 2276 CAUCAGCA G UUCCACCA 536 TGGTGGAA GGCTAGCTACAACGA GGAACTG 2238 2281 GCAGUUCC A CCACUUUA 537 TAAAGTGG GGCTAGCTACAACGA GGAACTG 2239 2284 GUUCCACC A CUUUAGAC 538 GTTAAAG GGCTAGCTACAACGA GTAAAGTG 2241 2294 UUUAGACU G UCAUGCUA 539 CATGACAG GGCTAGCTACAACGA CTAAAGTG 2241 2297 AGACUGUC A UGCUAAUG 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2297 AGACUGUA A UGGUGUC 541 CATTAGCA GGCTAGCTACAACGA ATGCATCT 2243 2299 ACUGUCAU A UGGUGUC 542 ACCATTAG GGCTAGCTACAACGA ATGCATCA 2245 2306 UGCUAGUA G UGUCCCG 544 CGGGGAC GGCTAGCTACAACGA ATGCATCA 2246 2307 GUCCCCGA G CCUCAGAU 546 ATCTGAGGA GGCTAGCTACAACGA ACATTAGA 2247	2260	GUGAUCAC A CAGUGGCC	531	GGCCACTG GGCTAGCTACAACGA GTGATCAC	2233
2269 CAGUGGCC A UCAGCAGU 534 ACTGCTGA GGCTAGCTACAACGA GGCCACTG 2236 2273 GGCCAUCA G CAGUUCCA 535 TGGAACTG GGCTAGCTACAACGA TGATGGCC 2237 2276 CAUCAGCA G UUCCACCA 536 TGGTGGAA GGTAGCTACAACGA TGCTGATG 2238 2281 GCAGUUCCA C A CACUUUA 537 TAAAGTGG GGCTAGCTACAACGA GGAACTCC 2239 2284 GUUCCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA GGTGGAC 2240 2291 CACUUAGCU A CUGUCAU 539 CATGACAG GGCTAGCTACAACGA CATAAAGTG 2241 2294 UUUAGACU G UCAUGCUA 540 TACCATGA GGCTAGCTACAACGA CATAACTA 2242 2297 ACUGUCAU G CUAAUGGU 541 CATTAGCA GGCTAGCTACAACGA ATGACATTA 2242 2299 ACUGUCAU G CUAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAT 2245 2303 UCAUGUAU G UGCCCGA 544 CGGGAAC GGCTAGCTACAACGA CATTAGCA 2245 2306 UCAAUGU G UCCCGAS 545 CTCGGGGA GGCTAGCTACAACGA CATAGCA 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGAGGC 2248<	2263	AUCACACA G UGGCCAUC	532	GATGGCCA GGCTAGCTACAACGA TGTGTGAT	2234
2273 GGCCAUCA G CAGUUCCA 535 TGGAACTG GGCTAGCTACAACGA TGATGGCC 2237 2276 CAUCAGCA G UUCCACCA 536 TGGTGGAA GGCTAGCTACAACGA TGCTGATG 2238 2281 GCAGUUCA A CACUUUA 537 TAAAGTGG GGCTAGCTACAACGA GGATGCT 2239 2284 GUUCCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA GGTGGACT 2240 2291 CACUUUAG A CUGUCAUG 539 CATGACAG GGCTAGCTACAACGA AGTCTAAA 2241 2294 UUUAGACU G UCAUGCUA 540 TAGCATGA GGCTACCAACGA AGTCTAAA 2242 2297 AGACUGUA G UCAUAUGU 541 CATTAGCA GGCTAGCTACAACGA AGTCTAAA 2242 2299 ACUGUCAU A UGGUGUCC 542 CACATTAG GGCTAGCTACAACGA ATGACATG 2244 2290 ACUCUCAU A UGGUGUCC 544 CGGGGAC GGCTAGCTACAACGA CACTTAGCA 2245 2306 UGCUAAUG G UGUCCCCG 544 CGGGGAC GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTAGAG GGCTAGCTACAACGA ACCATTAG 2247 2326 CUCAGAUC A CUUGGUU 548 AAACCAACA GGCTACAACGA CTAGAGA TACTAGAGA ACCATTAGACGA TACCA	2266	ACACAGUG G CCAUCAGC	533	GCTGATGG GGCTAGCTACAACGA CACTGTGT	2235
2276 CAUCAGCA G UUCCACCA 536 TGGTGGAA GGCTAGCTACAACGA TGCTGATG 2238 2281 GCAGUUCC A CACUUUA 537 TAAAGTGG GGCTAGCTACAACGA GGAACTCC 2239 2284 GUUCCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA GGAACTAC 2240 2291 CACUUUAG A CUUUCGCA 539 CATGACAG GGCTAGCTACAACGA AGTCTAAAAGTG 2241 2294 UUUAGACU G UCAAUGGU 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2297 AGACUGUC A UGCUAAUG 541 CATTAGCA GGCTAGCTACAACGA AGTCTAAA 2242 2299 ACUGUCAU G UGAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGUCA G UGUCCCCC 544 CGGGGACA GGCTAGCTACAACGA ATGACAGT 2246 2306 UGCUGAUG G UCCCCGAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA ACCATTAG 2247 2324 CACACAAA CAUCAGUUG 547 CCAAGTGACA GGCTAGCTACAACGA CTAGAGCA 2249 2331 AUCACUCAG A UUUAAAAA 549 TTTTTAAA GGC	2269	CAGUGGCC A UCAGCAGU	534	ACTGCTGA GGCTAGCTACAACGA GGCCACTG	2236
2281 GCAGUUCC A CCACUUUA 537 TAAAGTGG GGCTAGCTACAACGA GGAACTGC 2239 2284 GUUCCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA GGTGGAAC 2240 2291 CACUUUAGA A CUGUCAUG 539 CATGACAG GGCTAGCTACAACGA CTAAACTG 2241 2294 UUUAGACU G UCAUGCUA 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2297 AGACUGUC A UGCUAAUG 541 CATTAGCA GGCTAGCTACAACGA ATGACAGT 2243 2299 ACUGUCAU G CUAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGCUA A UGGUGUCC 543 GGACACCA GGCTAGCTACAACGA TAGCATGA 2245 2306 UGCUAAUGG U UCCCCGAG 544 CGGGGA GGCTAGCTACAACGA ACCATTAG 2246 2308 CUAAUGGU U CCCCGAG 545 CTCGAGGA GGCTAGCTACAACGA TAGCACA TAGCACAA 2246 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTACAACGA TCGAGCA 2249 2323 AGCCUCAG A UCACUUGG 547 CCAAGTCAACACAA GGCTACAACGA TATTACAACGA CAAGTGAT 2251 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAAC 2261 <td>2273</td> <td>GGCCAUCA G CAGUUCCA</td> <td>535</td> <td>TGGAACTG GGCTAGCTACAACGA TGATGGCC</td> <td>2237</td>	2273	GGCCAUCA G CAGUUCCA	535	TGGAACTG GGCTAGCTACAACGA TGATGGCC	2237
2284 GUUCCACC A CUUUAGAC 538 GTCTAAAG GGCTAGCTACAACGA GGTGGAAC 2291 CACUUUAGA A CUGUCAUG 539 CATGACAG GGCTAGCTACAACGA CTAAAGTG 2241 2294 UUUAGACU G UCAUGCUA 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2297 AGACUGUC A UGCUAAUG 541 CATTAGCA GGCTAGCTACAACGA AGTCTAAA 2243 2299 ACUGUCAU G CUAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGCUA A UGGUGUCC 543 GGACACCA GGCTAGCTACAACGA ATGACAGT 2245 2306 UGCUAAUG G UGCCCCG 544 CGGGGACA GGCTAGCTACAACGA ACCATTAG 2246 2308 CUAAUGGU G UCCCCGAG 545 CTCGAGG GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CUCAGAU 546 ATCTGAGG GGCTAGCAACGA TCGAGGGC 2248 2323 AGCCUCAG A UCACUUGG 547 CCAAGTAG GGCTACCAACGA CTCAGACGA CATCTGAG 2331 AUCACUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CATTTAAA 2251 2331 AUCACUG G UUAAAAA 551 TTTTGTGG GGCTAGCTACAACGA TTTTAAA 2252	2276	CAUCAGCA G UUCCACCA	536	TGGTGGAA GGCTAGCTACAACGA TGCTGATG	2238
2291 CACUUUAG A CUGUCAUG 539 CATGACAG GGCTAGCTACAACGA CTAAAGTG 2241 2294 UUUAGACU G UCAUGCUA 540 TAGCATGA GGCTAGCTACAACGA AGTCTAAA 2242 2297 AGACUGUC A UGCUAAUG 541 CATTAGCA GGCTAGCTACAACGA AGACATCT 2243 2299 ACUGUCAU G CUAAUGGU 542 ACCACTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGCUA A UGGUGUCC 543 GGACACCA GGCTAGCTACAACGA ATGACAGT 2245 2306 UGCUAAUG G UCCCCGAG 544 CGGGGACA GGCTAGCTACAACGA CATTAGCA 2246 2308 CUAAUGGU G UCCCCGAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA GATCTGAG 2248 2323 AGCCUCAG A UCACUUG 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTAAA GGCTAGCTACAACGA TTTTAAAC 2251 2339 GUUUAAAA A CAACCACA 550 TGTGTGT GGCTAGCTACAACGA TTTTTAAC 225	2281	GCAGUUCC A CCACUUUA	537	TAAAGTGG GGCTAGCTACAACGA GGAACTGC	2239
2294 UUUAGACU G UCAUGCUA 540 TAGCATGA GGCTAGCTACACGA AGTCTAAA 2242 2297 AGACUGUC A UGCUAAUG 541 CATTAGCA GGCTAGCTACACGA GACAGTCT 2243 2299 ACUGUCAU G CUAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGCUA A UGGUGUCC 544 CGGGGACCA GGCTAGCTACAACGA CATTAGCA 2245 2306 UGCUAUGGU G UGCCCCG 544 CGGGGACA GGCTAGCTACAACGA ACCATTAG 2247 2308 CUAAUGGU G UGCCCCAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA TCGGGCT 2249 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAACTGA 2251 2332 GUUUAAAAA A CACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTTAA 2252 2332 GUUUAAAAA A CACACACA 550 TTTTGTGG GGCTAGCTACAACGA TTTTTAA 2252 2332 GUUUAAAAA A CACACAAA 551 TTTTGTGTG GGCTAGCTACAACGA TTTTTTA <td>2284</td> <td>GUUCCACC A CUUUAGAC</td> <td>538</td> <td>GTCTAAAG GGCTAGCTACAACGA GGTGGAAC</td> <td>2240</td>	2284	GUUCCACC A CUUUAGAC	538	GTCTAAAG GGCTAGCTACAACGA GGTGGAAC	2240
2297 AGACUGUC A UGCUAAUG 541 CATTAGCA GGCTACCAACGA GACAGTCT 2243 2299 ACUGUCAU G CUAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGCUA A UGGUGUCC 543 GGACACCA GGCTAGCTACAACGA CATTAGCA 2245 2306 UGCUCAGG 544 CGGGGACA GGCTAGCTACAACGA CATTAGCA 2246 2308 CUAAUGGU G UCCCCGG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCGGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 ACCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA CTGAGGCT 2249 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA TTTTTAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGGG GGCTAGCTACAACGA TGTTTTTA 2252 2345 AACCACAAA A UACAACAA 552 GTATTTTG GGCTACAACGA TTTTTGTG 2255 2350 ACCACAAA A UACAACAA 553 TTTTTGTG GGCTAGCTACAACGA TTTTTGTG 2256	2291	CACUUUAG A CUGUCAUG	539	CATGACAG GGCTAGCTACAACGA CTAAAGTG	2241
2299 ACUGUCAU G CUAAUGGU 542 ACCATTAG GGCTAGCTACAACGA ATGACAGT 2244 2303 UCAUGCUA A UGGUGUCC 543 GGACACCA GGCTAGCTACAACGA TAGCATGA 2245 2306 UGCUAAUG G UGUCCCG 544 CGGGGACA GGCTAGCTACAACGA CATTAGCA 2246 2308 CUAAUGGU G UCCCCGAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAGA 2247 2316 GUCCCCGA G CUCCAGAU 546 ATCTGAGG GGCTAGCTACAACGA CTGAGGCT 2249 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA CTGAGGCT 2249 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA CTGAGGCT 2249 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTACCAACGA CAACTGATTACAACGA CTGATGTA 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAAC 2252 2342 UAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TTTTTAA 2253 2345 AACCACAAA A UACAACAA 552 GTATTTTG GGCTACAACGA TTTTTGTG 2255 2350 ACCACAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA TTTTTTTG	2294	UUUAGACU G UCAUGCUA	540	TAGCATGA GGCTAGCTACAACGA AGTCTAAA	2242
2303 UCAUGCUA A UGGUGUCC 543 GGACACCA GGCTAGCTACAACGA TAGCATGA 2245 2306 UGCUAAUG G UGUCCCG 544 CGGGGACA GGCTAGCTACAACGA CATTAGCA 2246 2308 CUAAUGGU G UCCCCGAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 AGCCUCAG A UCAGUUGG 547 CCAAGTGA GGCTACAACGA GATCTGAG 2250 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGT 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCAACGA TTTTAAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCAACGA GGTTGTT 2254 2350 ACCACAAA A UACAACAA 552 GTATTTGT GGCTAGCAACGA TTTTGTGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTACAACGA TTTTGTGT 2256 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTACAACGA TTTTTGTG 2256 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTACAACGA TCTTTTTTG 2257 <td>2297</td> <td>AGACUGUC A UGCUAAUG</td> <td>541</td> <td>CATTAGCA GGCTAGCTACAACGA GACAGTCT</td> <td>2243</td>	2297	AGACUGUC A UGCUAAUG	541	CATTAGCA GGCTAGCTACAACGA GACAGTCT	2243
2306 UGCUAAUG G UGUCCCCG 544 CGGGGACA GGCTAGCTACAACGA CATTAGCA 2246 2308 CUAAUGGU G UCCCCGAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA CTGAGGCT 2249 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGAT 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TGTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTG GGCTAGCTACAACGA TGTTTTT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTG GGCTAGCTACAACGA TTTTGTGG 2256 2352 CACAAAAU A CAACAACA 555 TTGTTGTG GGCTAGCTACAACGA TTTTGTGG 2256 2352 CACAAAAU A CAACAACA 555 GGCTCTTG GGCTAGCTACAACGA TTTTGTGG 2256 2355 AAAAUACA A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA TTTTGTGG 2256 2361 CAACAACA C CAAGAGC 555 GGCTCTTG GGCTAGCTACAACGA TTTTGTTG 2257 2361 CAACAACA A UACAACAA 553 TTGTTGTG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2371 CUGGAAUU A UUUUAAGA 558 TCCTAAAA GGCTAGCTACAACGA TCTTGTTG 2259 2371 CUGGAAUU A UUUUAAGA 558 TCCTAAAA GGCTAGCTACAACGA ATTCCAGG 2260 2379 AUUUUAG A CAAGAACG 559 CTTCCTGG GGCTAGCTACAACGA ATTCCAGG 2260 2379 AUUUUAG A CAAGAACG 559 CTTCCTGG GGCTAGCTACAACGA TCCTGGT 2262 2390 AGGAAGCA C CAGCACGC 560 GCGTGCTT GGCTAGCTACAACGA TCCTGGT 2262 2390 AGGAAGCA C CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TCCTGGT 2262 2391 AGCACGCC C CUGUUUU 562 AAACAGCG GCTAGCTACAACGA GCTCTCTC 2263 2392 GAAGCAGC C CUGUUUU 562 AAACAGCG GCTAGCTACAACGA GCTCTCTC 2263 2397 AGCACGCU G UUUAAUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTCTCC 2264 2394 AGCACCAC C CUGUUUU 562 AAACAGCG GCCTAGCTACAACGA AGCGTCTCC 2264 2397 AGCACGCU G UUUAAUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTCTCC 2264 2397 AGCACGCU G UUUAAUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTCTCC 2264 2397 AGCACGCU G UUUAAUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTCTCC 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAG GGCTAGCTACAACGA ACACGCG 2267 2410 UUGAAAGA G	2299	ACUGUCAU G CUAAUGGU	542	ACCATTAG GGCTAGCTACAACGA ATGACAGT	2244
2308 CUAAUGGU G UCCCCGAG 545 CTCGGGGA GGCTAGCTACAACGA ACCATTAG 2247 2316 GUCCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA CTGAGGCT 2249 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGAT 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TGTTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTTG GGCTAGCTACAACGA TTTTGTGT 2255 2350 ACCACAAA A UACAACAA 553 TTGTTTTA GGCTAGCTACAACGA TTTTGTGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTTGTTG GGCTAGCTACAACGA TTTTGTGT 2256 2355 AAAAUACA A CAAGAGAC 556 ATTCCAGG GGCTAGCTACAACGA TCTTTTTT 2257 2361 CAACAGAG A CAGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTT	2303	UCAUGCUA A UGGUGUCC	543	GGACACCA GGCTAGCTACAACGA TAGCATGA	2245
2316 GUCCCGA G CCUCAGAU 546 ATCTGAGG GGCTAGCTACAACGA TCGGGGAC 2248 2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA CTGAGGCT 2249 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGAT 2251 2339 GUUUAAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTG GGCTAGCTACAACGA TGTTTTA 2253 2345 AAACAACC A CAACAAA 553 TTGTTGTG GGCTAGCTACAACGA TTTTGTGT 2256 2350 ACCACAAA A UACAACAA 553 TTTTTTTG GGCTAGCTACAACGA ATTTTTTG 2256 2352 CACAAAAU A CAAGAGC 554 TCTTTTTTG GGCTAGCTACAACGA ATTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	2306	UGCUAAUG G UGUCCCCG	544	CGGGGACA GGCTAGCTACAACGA CATTAGCA	2246
2323 AGCCUCAG A UCACUUGG 547 CCAAGTGA GGCTAGCTACAACGA CTGAGGCT 2249 2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGAT 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTTAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTTGTGG GGCTAGCTACAACGA TTTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTTG GGCTAGCTACAACGA TTTTGTGT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTTGTGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA TTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TCTTGTTG 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTACCACGA ATTCCAGG 2260 2379 AUUUUAGG A CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TCCTTCCT 2263<	2308	CUAAUGGU G UCCCCGAG	545	CTCGGGGA GGCTAGCTACAACGA ACCATTAG	2247
2326 CUCAGAUC A CUUGGUUU 548 AAACCAAG GGCTAGCTACAACGA GATCTGAG 2250 2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGAT 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TGTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTTG GGCTAGCTACAACGA GTTTTGTGT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTTGTGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TCTTGTTG 2257 2361 CAACAAGA G CUGGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCAACGA CTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCAACGA TCCTTCCT 2263 <td>2316</td> <td>GUCCCCGA G CCUCAGAU</td> <td>546</td> <td>ATCTGAGG GGCTAGCTACAACGA TCGGGGAC</td> <td>2248</td>	2316	GUCCCCGA G CCUCAGAU	546	ATCTGAGG GGCTAGCTACAACGA TCGGGGAC	2248
2331 AUCACUUG G UUUAAAAA 549 TTTTTAAA GGCTAGCTACAACGA CAAGTGAT 2251 2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TGTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTTG GGCTAGCTACAACGA GGTTGTTT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTGTGGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA ACTCCAGG 2260 2379 AUUUUAGG A CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TCCTGGT 2262 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC C CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GCTGCTTC 2264 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 566 TCCTTCTAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GCCTCTT 2268	2323	AGCCUCAG A UCACUUGG	547	CCAAGTGA GGCTAGCTACAACGA CTGAGGCT	2249
2339 GUUUAAAA A CAACCACA 550 TGTGGTTG GGCTAGCTACAACGA TTTTAAAC 2252 2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TGTTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTG GGCTAGCTACAACGA GGTTGTTT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTGTGGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TGTATTTT 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA TCCAGGCT 2259 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TCCTGGT 2262 2392 GAAGCAC A CGCUGUU 562 AAACAGCG GGCTAGCTACAACGA GCTTCCT 2263 2392 GAAGCAC C CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA AGCGTTCCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2269 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2326	CUCAGAUC A CUUGGUUU	548	AAACCAAG GGCTAGCTACAACGA GATCTGAG	2250
2342 UAAAAACA A CCACAAAA 551 TTTTGTGG GGCTAGCTACAACGA TGTTTTTA 2253 2345 AAACAACC A CAAAAUAC 552 GTATTTG GGCTAGCTACAACGA GGTTGTTT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTGTGGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TGTATTTT 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTTCC 2264 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCTC 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2331	AUCACUUG G UUUAAAAA	549	TTTTTAAA GGCTAGCTACAACGA CAAGTGAT	2251
2345 AAACAACC A CAAAAUAC 552 GTATTTG GGCTAGCTACAACGA GGTTGTTT 2254 2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTGTGGT 2255 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TGTATTTT 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TCCTTGGT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTCCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTTC 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2339	GUUUAAAA A CAACCACA	550	TGTGGTTG GGCTAGCTACAACGA TTTTAAAC	2252
2350 ACCACAAA A UACAACAA 553 TTGTTGTA GGCTAGCTACAACGA TTTGTGGT 2256 2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TGTATTTT 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TCCTTCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTTCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TCTTCTG GGCTAGCTACAACGA GACTCTTT 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2342	UAAAAACA A CCACAAAA	551	TTTTGTGG GGCTAGCTACAACGA TGTTTTTA	2253
2352 CACAAAAU A CAACAAGA 554 TCTTGTTG GGCTAGCTACAACGA ATTTTGTG 2256 2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TGTATTTT 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2345	AAACAACC A CAAAAUAC	552	GTATTTTG GGCTAGCTACAACGA GGTTGTTT	2254
2355 AAAAUACA A CAAGAGCC 555 GGCTCTTG GGCTAGCTACAACGA TGTATTTT 2257 2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 566 TCTTTCAA GGCTAGCTACAACGA TCTTTCAA 2268 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2269	2350	ACCACAAA A UACAACAA	553	TTGTTGTA GGCTAGCTACAACGA TTTGTGGT	2255
2361 CAACAAGA G CCUGGAAU 556 ATTCCAGG GGCTAGCTACAACGA TCTTGTTG 2258 2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA TCTTTCAA 2268 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2269	2352	CACAAAAU A CAACAAGA	554	TCTTGTTG GGCTAGCTACAACGA ATTTTGTG	2256
2368 AGCCUGGA A UUAUUUUA 557 TAAAATAA GGCTAGCTACAACGA TCCAGGCT 2259 2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA GACTCTTT 2269	2355	AAAAUACA A CAAGAGCC	555	GGCTCTTG GGCTAGCTACAACGA TGTATTTT	2257
2371 CUGGAAUU A UUUUAGGA 558 TCCTAAAA GGCTAGCTACAACGA AATTCCAG 2260 2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2361	CAACAAGA G CCUGGAAU	556	ATTCCAGG GGCTAGCTACAACGA TCTTGTTG	2258
2379 AUUUUAGG A CCAGGAAG 559 CTTCCTGG GGCTAGCTACAACGA CCTAAAAT 2261 2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2368	AGCCUGGA A UUAUUUUA	557	TAAAATAA GGCTAGCTACAACGA TCCAGGCT	2259
2387 ACCAGGAA G CAGCACGC 560 GCGTGCTG GGCTAGCTACAACGA TTCCTGGT 2262 2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2371	CUGGAAUU A UUUUAGGA	558	TCCTAAAA GGCTAGCTACAACGA AATTCCAG	2260
2390 AGGAAGCA G CACGCUGU 561 ACAGCGTG GGCTAGCTACAACGA TGCTTCCT 2263 2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2379	AUUUUAGG A CCAGGAAG	559	CTTCCTGG GGCTAGCTACAACGA CCTAAAAT	2261
2392 GAAGCAGC A CGCUGUUU 562 AAACAGCG GGCTAGCTACAACGA GCTGCTTC 2264 2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2387	ACCAGGAA G CAGCACGC	560	GCGTGCTG GGCTAGCTACAACGA TTCCTGGT	2262
2394 AGCAGCAC G CUGUUUAU 563 ATAAACAG GGCTAGCTACAACGA GTGCTGCT 2265 2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2390	AGGAAGCA G CACGCUGU	561	ACAGCGTG GGCTAGCTACAACGA TGCTTCCT	2263
2397 AGCACGCU G UUUAUUGA 564 TCAATAAA GGCTAGCTACAACGA AGCGTGCT 2266 2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2392	GAAGCAGC A CGCUGUUU	562	AAACAGCG GGCTAGCTACAACGA GCTGCTTC	2264
2401 CGCUGUUU A UUGAAAGA 565 TCTTTCAA GGCTAGCTACAACGA AAACAGCG 2267 2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2394	AGCAGCAC G CUGUUUAU	563	ATAAACAG GGCTAGCTACAACGA GTGCTGCT	2265
2410 UUGAAAGA G UCACAGAA 566 TTCTGTGA GGCTAGCTACAACGA TCTTTCAA 2268 2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2397	AGCACGCU G UUUAUUGA	564	TCAATAAA GGCTAGCTACAACGA AGCGTGCT	2266
2413 AAAGAGUC A CAGAAGAG 567 CTCTTCTG GGCTAGCTACAACGA GACTCTTT 2269	2401	CGCUGUUU A UUGAAAGA	565	TCTTTCAA GGCTAGCTACAACGA AAACAGCG	2267
	2410	UUGAAAGA G UCACAGAA	566	TTCTGTGA GGCTAGCTACAACGA TCTTTCAA	2268
2423 AGAAGAGA A IIGAAGGIIG E69 GAGGUUGA GGGUAGGUAGA GAGA GGUGGUUGU	2413	AAAGAGUC A CAGAAGAG	567	CTCTTCTG GGCTAGCTACAACGA GACTCTTT	2269
2423 AGAAGAGG A UGAAGGUG 500 CACCIICA GGCIAGCTACAACGA CCITCTTCT 2270	2423	AGAAGAGG A UGAAGGUG	568	CACCTTCA GGCTAGCTACAACGA CCTCTTCT	2270

2491 AGADGANG G UGUGUGUC 569 (SATRAGACA GECTAGCTACACGA CITCATICC) 2271 2431 AGGUGUGU A UGACUGCA 570 (STRATRAGA GECTAGCTACAACGA AGACACCT 2273 2432 AGGUGUGU A UGACUGCA 571 TGCAGTAG GECTAGCTACAACGA AGACACCT 2273 2434 UGUCUAUC A CUGCAGAG 572 CTTTGAG GECTAGCTACAACGA AGACACCT 2274 2444 CAUCCAAA G CAACAGAC 573 TGGCTTTG GECTAGCTACAACGA GATGACCA 2274 2446 ACUGCAAA G CCACCAAC 574 GTTGTGG GECTAGCTACAACGA GATGACCA 2274 2449 CARANGCC A CCACCAAC 575 CTGTGTGG GECTAGCTACAACGA GACCTTTCC 2275 2442 AGACACCA A CCAACAGA 575 CTGTGTGG GECTAGCTACAACGA TGGTTGC 2276 2442 CCACAAAGG G CUCUGUGG 577 CCACAGAG GECTAGCACACA GAGCCT 2280 2442 CCACAAAGG G CUCUGUGG 577 CCACAGAG GECTAGCACACA GAGCCCT 2280 24467 AGGCCUC G UGAGAAGG 578 ACTTCCA GECTAGCTACAACGA AGACCCT 2280 2447 UGUGGAAA G UUCAGCAU 579 ATGCTGAA GAGCTAGCACACACA TTTCCACA 2281 24481 AGUUCAGC A UACCUCC 580 GAGGTTG GGCTAGCTACAACGA TGTACCTT 2282 2481 AGUUCAGCA A CCUCACUG 582 CAGTGAGG GGCTAGCTACAACGA TGTACCTT 2283 2483 UUCAGCAU A CCUCACUG 582 CAGTGAGG GGCTAGCTACAACGA ATGCTGAACT 2283 2483 UUCAGCAU A CUCACCUC 581 GTGAGCTA GGCTAGCTACAACGA ATGCTGAACT 2284 2486 CAUACCUC A CUGUUCAA 583 TGTAGACG GGCTAGCTACAACGA ATGCTGAACT 2284 2486 CAUACCUC A CUGUUCAA 583 TGTAGACG GGCTAGCTACAACGA ATGCTGAACT 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA ATGCTGAA 2286 2500 UUCAAGGA A CUCGAGCC 585 GTCGGAGG GGCTAGCTACACGA AGGGTAGCTACAACGA AGGGTAGCTACAACGA AGGGTAGCTACAACGA AGGGTAGCACACA CAGAGGTACAACGA AGGGTAGCTACAACGA AGGGTAGCTACAACGA AGGGTAGCACACACACACACACACACACACACACACACAC					
2435 AGGUGUU A UCACUGCA 571 TGCAGTGA GGCTAGCTACAAGGA AGACACC 2273 2438 UGUCUANUC A CUGCAAGG 572 CTTTGCAG GGCTAGCTACAACGA GATAGACCA 274 2441 CUAUCACU G CACAAGCA 573 TGGCTTTG GGCTAGCTACAACGA AGATAGACA 274 2444 ACUGCAAA G CCACCAAC 575 CTGGTTGG GGCTAGCTACAACGA AGATGATGA 2276 24449 GCAAAGCC A CCACAACG 575 CTGGTTGG GGCTAGCTACAACGA GGCTTTGC 2277 24453 AGCCACCAC A CCACAAGG 575 CTGGTTGG GGCTAGCTACAACGA GGCTTTGC 2277 24462 GCCAGAAGG G CUCUGUGG 576 CCTTCTGG GGCTAGCTACAACGA GGCTTTGC 2277 2462 CCCAGAAGG G CUCUGUGG 577 CCACAGAG GGCTAGCTACAACGA CTTTTGC 2278 2462 CCCAGAAGG G CUCUGUGG 578 ACTTCCA GGCTAGCTACAACGA CTTCTGG 2279 2467 AGGCCUG G UGAGAAGU 578 ACTTCCA GGCTAGCTACAACGA CTTCTGG 2279 2467 AGGCCUG G UCAGAGAGU 578 ACTTCCA GGCTAGCTACAACGA CAGCCCT 2281 2474 UGUGGAAA G UCACCCC 580 GAGGTTAG GGCTAGCTACAACGA TGAACCTA 2281 2481 AGUUCAGCA U ACCUCAC 580 GAGGTTAG GGCTAGCTACAACGA TGAACCTA 2281 2481 AGUUCAGCA C CUGUUCAA 583 TGAACGTT GGCTAGCTACAACGA TGAACCTA 2281 2483 UUCAGCAU A CUCACACG 582 CAGTGAGG GGCTAGCTACAACGA TGAACCTA 2284 2484 CAUACCUC A CUGUUCAA 583 TGAACCTA CAGCGA GAGGTTACAACGA AGTGGAGT 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA AGTGGAGT 2286 2500 UUCAAGGA A CCUCGGAC 585 GTCCGAGG GGCTAGCTACAACGA ACTGGAGT 2286 2511 UCAGCACA A UCUGAACGA 586 TCCGGAG GGCTAGCTACAACGA ACTGGAGT 2286 2511 UCAGCACA A UCUGAACG 586 GTCCGGAG GGCTAGCTACAACGA ACTGGAGT 2287 2511 UCAGCACA A UCUGAACC 586 GTCCGAGG GGCTAGCTACAACGA ACTCGAGT 2289 2511 UCAGCACA A UCUGAACC 586 GTCCGAGG GGCTAGCTACAACGA CACACCC 2289 2523 ANUCUGAA C UCUAACCA 591 TGTTAGGA GGCTAGCTACAACGA TCCGAGT 2291 2524 UACAUGGA C CUCUACCA 591 TGTTAGGA GGCTAGCTACAACGA TCCGAGT 2291 2525 AGCUGUCA A UCCACCCU 589 GTGAGCTAG GGCTAGCTACAACGA TCCGAGT 2291 2526 UCACCCUC A CAGCCCC 689 GTGAGCTACAACCA AGGGTCA 2292 2536 UCACCCUC A CAGCCCC 689 GTGAGCTACAACCA AGGGTCA 2292 2537 AACCACAC A UGCACCCU 599 GTGCATG GGCTAGCTACAACCA AGGGTCA 2294 2544 UACAUGCA C CUCUACCA 591 TGTTAGGA GGCTAGCTACAACCA AGAGGAC 2292 2554 UUCAACCU G CGACCCUC 599 GAGGCTAG GGCTAGCTACAACGA AGAGCAC 2292 2556 UCACCCUC A UCACACA 591 TGTTA	2429	GGAUGAAG G UGUCUAUC	569	GATAGACA GGCTAGCTACAACGA CTTCATCC	2271
2438 UGUCUAIUC A CUGCAAAG 572 CTTTGCAG GGCTAGCTACAACGA GATAGACA 2274 2441 CUAUCACU G CAAAGCCA 573 TGGCTTIG GGCTAGCTACACGA AGTGATAC 2275 2448 ACUGCAAA CCACCAAC 574 GTGGTGG GGCTAGCTACAACGA TTTGCAGT 2276 2449 GCAGACAC ACCACCAC 575 CTGGTTGG GGCTAGCTACAACGA GGCTTGCC 2277 2443 AGCGACCA A CCAGAAGG 575 CCTCTTGG GGCTAGCTACAACGA GGCTTGCC 2278 2462 CCAGAAGG GUUCAGCAU 575 CCACAGAG GGCTAGCTACAACGA CCTCCCAC 2280 2474 UGUGGAAA GUUCAGCAU 579 ATGCTGAA AGGCTAGCTACAACGA CCTCCAC 2281 2481 AGUUCAGC A UACCUCAC 581 CRAGAGTAGCTACAACGA TTTCCAACGA 2281 2483 CUUCACCAC 581 CRAGAGTAGCTACAACGA TTTCCAACAC 2285 2484 CAUCACCUC ACUCACUCA 582 CATCTGAGG GGCTAGCTACAACGA AGGTTACTACACACA 2285 2489 CAUCACCUCU ASA TTGAACGTACAACGA AGGTTACTACAC	2431	AUGAAGGU G UCUAUCAC	570	GTGATAGA GGCTAGCTACAACGA ACCTTCAT	2272
2411 CUAUCACU G CAAAGCCA 573 TGGCTTTG GGCTAGCTACACGA AGTGATAG 2275 2446 ACUGCABA G CCACCABC 574 GTTGGTGG GGCTAGCTCACGA TTTGCAGT 2276 2449 GCAAAGGC A CCAACCAG 575 CTGGTTGG GGCTAGCTCACGA GGCTTGCC 2277 2453 AGCCACCA A CCACCAG 575 CTGTTGG GGCTAGCTCACAGGA TGTTGCAGT 2276 2452 CCAGAAGG G CUCUGUUGG 577 CCACAGAG GGCTAGCTACAACGA TGTGGGCT 2278 2467 AGGGCUCU G UGGAAAGU 578 ACTTTCCA GGCTAGCTACAACGA TGTGGGCT 2278 2467 AGGGCUCU G UGGAAAGU 578 ACTTTCCA GGCTAGCTACAACGA AGGACCCT 2280 2474 UGUGGAAA G UUCAGCAU 579 ATGCTGAA GGCTAGCTACAACGA TGTCCACA 2281 2479 AAAGUCA G CAUACCUC 580 GAGGTATG TGACAACGA TGACCAC 2281 2481 AGUUCAGCA U DACCUCAC 581 GTGAGGTTA GGCTAGCTACAACGA TGACCTA 2282 2483 UUCAGCAU A CCUCACUG 582 CAGTGAGGT GGCTAGCTACAACGA TGACCT 2283 2484 UUCAGCAU A CUUGAUCAC 581 GTGAGGTTA GGCTAGCTACAACGA TGACCT 2283 2485 CAUACCUC A GUGUUCAA 583 TTGAACAG GGCTAGCTACAACGA GTGTAACT 2282 2486 CAUACCUC A GUGUUCAA 583 TTGAACAG GGCTAGCTACAACGA GTGTAACT 2285 2487 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA GGGTTAG 2285 2500 UUCAAGGA A CCUCOGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2287 2511 UCAGCACA A CUUGAACC 586 GTCAGCTACAACGA AGTGAGT 2286 2511 UCAGCACA A UCUAACGA 586 TGCCAGG GGCTAGCTACAACGA TCCTTGAA 2287 2511 UCAGCACA A UCUAACCU 587 AGATTAGA GGCTAGCTACAACGA TCCTTGAA 2287 2511 UCAGCACA A UCUAGACC 588 GTCCCAGA GGCTAGCTACAACGA TCCTTGAA 2289 2516 CAAGUCUA A UCUAGAGC 588 GTCCCAGA GGCTAGCTACAACGA TCCTTGAA 2289 2516 CAAGUCUA A UCUAGAGC 589 GTGACTACAACGA TCCAGCAT 2291 2527 AAUCUGGA C CUCAACCA 591 TGTAGAGG GGCTAGCTACAACGA TCCAGCAT 2291 2528 AUUCUGGA C CUCAACCA 591 TGTAGAGG GGCTAGCTACAACGA TCCAGGAT 2291 2529 UCAACCUCU A CAUCAAC 591 TGTAGAGG GGCTAGCTACAACGA TCCAGGT 2293 2530 ACCUAACA A UGCACCU 592 GTGACTG GGCTAGCTACAACGA CAGGTCCA 2292 2531 AUCUGGAC A CAUCAACA 591 TGTTAGAG GGCTAGCTACAACGA TCCAGGT 2293 2540 UCUAACAU G UCUAACCA 591 TGTTAGAG GGCTAGCTACAACGA TCCAGGG 2294 2541 UCAACAU G UCCACCU 592 GAGGTAG GGCTAGCTACAACGA CAGAGCA 2294 2552 AUGCACU A UCACCUCU 599 CAGAGGG GGCTAGCTACAACGA ATGAGTA 2295 2551 UCUAACAU G UCACCUCU 599 CAGAGGG GGCTAGCTACAACGA CA	2435	AGGUGUCU A UCACUGCA	571	TGCAGTGA GGCTAGCTACAACGA AGACACCT	2273
2446 ROUGCARA G CCACCARC 574 GTTGGTGG GGCTAGCTACAGCA TTTGCAGT 2276 2449 GCARAGCC A CCARACCAG 575 CTGGTTGG GGCTAGCTACAGCA GGCTTTGC 2277 2453 AGCCACCA A CAGAAGG 576 CTCTTGG GGCTAGCTACAGGA CGTTTGC 2278 2462 CCRGARGG G CUCUGUGG 577 CCRCAGAG GGCTAGCTACAACGA AGAGCCCT 2280 2467 AGGGALGU GUCAGCAU 579 ATGTGAA GGCTAGCTACAACGA AGAGCCCT 2281 2473 AGUGGAAA G UUCAGCAU 580 GAGGTGAA GGCTGAACTA 2281 2473 AGUGCAG G CAUACCUC 581 GTGAGGTAGCTACAACGA GTGAACT 2282 2481 AGUUCAGCA UACCUCAC 581 GTGAGGTAGCTACAACGA AGGTGAACT 2283 2488 CUUCAGCU G UUCAAGGA 583 TTGAACAG GGCTAGCTACAACGA AGGTATCT 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA CGGGTACT 2285 2500 UUCAAGGA A CCUCGGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2287 2511 UGAGACAG A UCUAGUCA 587 GTGATCAGCTACAACGA TTGACATA 2289 <t< td=""><td>2438</td><td>UGUCUAUC A CUGCAAAG</td><td>572</td><td>CTTTGCAG GGCTAGCTACAACGA GATAGACA</td><td>2274</td></t<>	2438	UGUCUAUC A CUGCAAAG	572	CTTTGCAG GGCTAGCTACAACGA GATAGACA	2274
2449 GCAAAGCC A CCAACCAG 575 CTGGTTGG GGCTAGCTAACGA GGCTTTGC 2277 2451 AGCCACCA A CCAGAAGG 576 CCTTCTGG GGCTAGCTACACGA TGGTGGCT 2278 2462 CCAGAAGG GUCUGUGG 577 CCACAGAG GGCTAGCTCACAGGA GCTTCTGG 2279 2467 AGGGCUCU GUGAAGCU 578 ACTTCCA GGCTAGCTCACAGA AGGCTACCACCA 2281 2474 UGUGAGAA GUCACCU 580 GAGTTAGCTACACAGA TGACTACACGA 2281 2481 AGUUCAGC A UACCUCAC 581 GTGAGGTAGCTACACAGA GTGAACT 2283 2483 UUCACGAU 582 CAGTGACG GCTAGCTACACAGA ACTGCACA 2281 2488 CAUACCUC 6 UUCAAGGA 583 TGAACAG GGCTAGCTACACAGA AGTGAGT 2286 2507 AACCUCACU G UUCAAGGA 585 GTCGGAGG GGCTAGCTACACAGA AGTGAGT 2286 2510 UUCAAGGA A CUCAACA 586 AGACCUCA ACAGGUACA 587 AGACCACA ACAGGAGA CCAGGAGC 2286 </td <td>2441</td> <td>CUAUCACU G CAAAGCCA</td> <td>573</td> <td>TGGCTTTG GGCTAGCTACAACGA AGTGATAG</td> <td>2275</td>	2441	CUAUCACU G CAAAGCCA	573	TGGCTTTG GGCTAGCTACAACGA AGTGATAG	2275
2453 AGCCACCA A CCAGAAGG 576 CCTTCTGG GGCTAGCTACAACGA TGGTGGCT 2278 2462 CCAGAAGG G CUCUUUGG 577 CCACAGAG GGCTAGCTACAACGA CGTTCTGG 2279 2467 AGGGCUCU G UGGAAAGU 579 ATTTCCA GGCTACCAACGA CGGCCCC 2280 2474 UGUGGAA G UUCAGCAU 580 GAGGTTAGTACAACGA TTTCCACA 2281 2479 AAAGUUCAG C AUACCUCA 581 GTAGGTTA GGCTAACAACGA TTTCACAC 2281 2481 AGUUCAGC A UACCUCAC 581 CTTGAGGTA GGCTAACAACGA ACTGACAC 2282 2483 UUCAGCAU A CUGUUCAA 583 TTGAGGTA GGCTAACAACGA ACTGATACA 2285 2484 CAUCACU G UUCAAGGA 583 TTGAGAG GGCTAGCTACAACGA ACTCTTAAA 2286 2500 UUCAAGGA A CCUCGGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2286 2501 AUCCUCA A CAGUCUA 586 GTAGACTACAACGA TACAACGA TCCTTGAA 2286 2511 UCCAAGGA G UCUAAUCU 587 AGATTAGG GGCTACAACGA TCCAACGA 2289 2521 LUCAAGGA G UCUAAUCU 589 AGATTAGAGACAACAA ACAACCAA 2291	2446	ACUGCAAA G CCACCAAC	574	GTTGGTGG GGCTAGCTACAACGA TTTGCAGT	2276
2462 CCAGARAGG G CUCUGUGG 577 CCACAGAG GGCTAGCTACAACGA CCTTCTGG 2279 2467 AGGGCUCU G UGGAAAGU 578 ACTTTCCA GGCTAGCTACAACGA AGAGCCCC 2280 2474 GUGGAAA G UUCAGCAU 579 ATCTTCCA GGCTAGCTACAACGA TGCACCAC 2281 2479 AAAGUUCA G CAUCCUC 580 GAGGTAGCTACAACGA TGCACCAC 2282 2481 AGUUCAGCAU A CCUCACUC 581 GTGAAGTA GGCTAGCTACAACGA CGTAGACT 2282 2488 CAUCACCUC A CUGUUCAA 583 TTGATAGA GGCTAGCTACAACGA GAGGTAGC 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA AGTGCTAGC 2285 2500 LUCAAGGA A CCUCGAC 585 GTCCGAGA GGTAGCTACAACGA CCTGAGC 2286 2507 AACCUCAGA G UCUAALCU 586 TAGACTTG GGCTAGCTACAACGA TTGTCCCC 2289 2516 CAAGUUCUA A UCUCAC 589 GTGCAGA GGCTAGCTACAACGA TTGCACCA 2289 2523 AAUCUGAGA G UCACUCUA 589 GTGATCAGAACGA CACCAGA GACCACCA 2291 25250 MGCUGAUA C A UCACCCU 589 CAGGTAGCTACAACGA CACCACAGACACACCACCACCACCACCACCACCACCACCA	2449	GCAAAGCC A CCAACCAG	575	CTGGTTGG GGCTAGCTACAACGA GGCTTTGC	2277
2467 AGGGCUCU G UGGAAAGU 578 ACTITICCA GGCTAGCTACAACGA AGAGCCCT 2280 2474 UGUGGAAA G UUCACCAU 579 ATGCTGAA GGCTAGCTACAACGA TITTCCACA 2281 2481 AAGUUCAG C GAUACCUC 580 GAGGTTAG GGCTAGCTACAACGA GTCAACTTT 2282 2483 JUCAGCAU A CCUCACU 581 GTGAGGTA GGCTAGCTACAACGA GCTGAACT 2283 2488 CAUACCUC A CUGUUCAA 582 CAGTGAGG GGCTAGCTACAACGA AGGGGTAG 2285 2491 ACCUCACU G UUCAAGGA 583 TTGTAGA GGCTAGCTACAACGA AGGGGTAGG 2286 2500 UUCAAGGA A CUCAGGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2286 2501 LUCAAGUA A UCUGAACC 586 GTGATAGGAG GGCTACAACGA TCCTTGAA 2289 2511 LUCAGAUA A UCUGAACC 589 GTGATCAG GGCTACAACGA TCCACCA 2292 2523 AAUCUGAC A UCCACAC 589 TAGAGTGA GGCTACAACGA CAGGTCCACACCA 2292 2530 AGCUGAUC A UCCACUCA 590 TAGAGTGA GGCTAGCACACGA CAGGTCCACACCA 2292 2531 LUCACUUL A CAGCCUG 591 TGTTAGAG GGCTACAACGA	2453	AGCCACCA A CCAGAAGG	576	CCTTCTGG GGCTAGCTACAACGA TGGTGGCT	2278
2474 UGUGGANA G UUCAGCAU 579 ATGCTGAA GGCTAGCTACAACGA TTTCCACA 2281 2479 AAAGUUCA G CAUACCUC 580 GAGGTTATT GAGTAGCTACAACGA TGAACTT 2282 2481 AGUUCAGC A UACCUCAC 581 GTCAGGTA GGCTAACACGA GTGAACT 2283 2483 UUCAGCAU A CUCUCAG 582 CAGTGAGG GGCTAGCTACAACGA ATGCTGAA 2284 2488 CAUACCUC A CUGUICAA 583 TTGAACAG GGCTAGCTACAACGA ATGCATCA 2286 2491 ACCUCACU G UCCAGGA 585 GTCCGAGG GGCTAGCTACAACGA CCGAGGTT 2286 2500 UUCAAGGA A CUCCGGAC 585 GTCCGAGG GGCTAGCTACAACGA CCGAGGTT 2287 2507 AACCUCGG A CAGGUUA 586 TAGACTTG GGCTAGCTACAACGA CCGAGGTT 2287 2511 UCGACCUA 589 GTCCCAGA GGCTAGCTACAACGA TAGACTA 2289 2521 UCGACCUA A UCCACUCUA 590 TAGATGA GGCTACAACGA TAGACTA 2291 2523 AAUCUGAC A CUCUACA 591 TGTTAGAG GGCTAGCTACAACGA TAGACTACACA 2292 2530 AGCUGAUC A CUCUACA 591 TGTTAGAG GGCTAGCTACAACGA TAGACTACACA	2462	CCAGAAGG G CUCUGUGG	577	CCACAGAG GGCTAGCTACAACGA CCTTCTGG	2279
2479 AAAGUUCA G CAUACCUC 580 GAGGTATG GCTAGCTACAACGA TGAACTIT 2282 2481 AGUUCAGC A UACCUCAC 581 GTGAGGTA GCTGAACTACAGA GCTGAACT 2283 2483 JUCAGCAU A CCUCACGG 582 CAGTGAGG GCTGAGTACAACGA GCTGAACT 2284 2488 CAUACCUC A CUGUUCAA 583 TTGAACAG GCTAGCTACAACGA GAGGTAGG 2285 2500 JUCAAGGA A CCUCGGAC 585 GTCCGAGG GCTAGCTACAACGA ATGAGT 2286 2500 JUCAAGGA A CCUCGGAC 585 GTCCGAGG GCTAGCTACAACGA TCCTTGAA 2287 2507 AACCUCGA A CAAGUCUA 586 TAGACTTG GCCTAGCTACAACGA TCCTTGAA 2287 2511 JUCGGACAA G UCUAAUCU 587 AGATTAGA GCCTACAACGA TGACCTACACCA 2289 2512 AAUCUGGA G CUGAACC 588 GTCACCAGA GCTACCACAGA TAGACTT 2290 2523 AAUCUGAA C AUCUCUA 590 TAGAGTGA GCTACCACAGA TAGACT 2292 2530 AGCUGAA C AUCUCAAC 591 TGTTAGAG GCTAGCTACAACGA TAGACTACACA 2292 2533 AGCUGAA C AUCUCAAC 591 TGTTAGAG GCTAGCTACAACGA TAGACTACACA 2292 <td>2467</td> <td>AGGGCUCU G UGGAAAGU</td> <td>578</td> <td>ACTTTCCA GGCTAGCTACAACGA AGAGCCCT</td> <td>2280</td>	2467	AGGGCUCU G UGGAAAGU	578	ACTTTCCA GGCTAGCTACAACGA AGAGCCCT	2280
2481 AGUUCAGC A UACCUCACU 581 GTGAGGTA GCCTAGACGA GCTGAACGA CTGAACCA 2283 2483 JUCAGCAU A CCUCACUG 582 CAGTGAGG GCCTAGCTACAACGA ATGCTGAA 2284 2488 CAUACCUC A CUGUUCAA 583 TTGAACAG GCCTAGCTACAACGA AGGTATTO 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GCCTAGCTACAACGA AGTGATACA 2286 2500 JUCAAGGA A CCUCGGAC 585 GTCCGAGG GCCTAGCTACAACGA CCGAGGTT 2287 2507 AACCUCGA A CCUCGGAC 586 TAGACTTG GGCTAGCTACAACGA TGGTCCCA 2289 2511 UCGGACAA G UCUAUCA 587 AGATTGAG GCCTAGCTACAACGA TTGACCTA 2289 2521 AUGCGCA A UCCUCAA 590 TAGAGTGA GCCTAGCTACAACGA TAGACTACACACA 2291 2523 ANGCUGAC A UCCUCAA 590 TAGAGTGA GCCTAGCTACAACGA TAGACTACACACACACACACACACACACACACACACACAC	2474	UGUGGAAA G UUCAGCAU	579	ATGCTGAA GGCTAGCTACAACGA TTTCCACA	2281
2483 UUCAGCAU A CCUCACUG 582 CAGTGAGG GGCTAGCTACAACGA ATGCTGAA 2284 2488 CAUACCUC A CUGUUCAA 583 TTGAACAG GGCTAGCTACAACGA AGGGTAGG 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA AGGGAGG 2286 2500 UUCAAGGA 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2287 2507 AACCUCGG A CAAGUCUA 586 TAGACTTG GGCTAGCTACAACGA TCCTTGAA 2288 2511 UCGGACAA G UCUAAUCU 586 TAGACTTGA GGCTAGCTACAACGA TTGTCCGA 2289 2516 CAAGUCUA A UCUGGAC 589 GTGATCAG GGCTAGCTACAACGA TTGTCCGA 2289 2523 AAUCUGGA G UGAUCAC 589 GTGATCAG GGCTAGCTACAACGA TTGTCACCGA 2291 2520 AGCUGALCA 590 TAGAGTGA GCCTAGCTACAACGA TAGATTA 2291 2530 AGCUGALCA 592 GTGCATG GCCTAGCTACAACGA TAGATTA 2294 2531 AGCUGALCA 4 UGACACUG 592 GTGCATG GCCTAGCTACAACGA TAGATTACACTA 2295 2540 UAC	2479	AAAGUUCA G CAUACCUC	580	GAGGTATG GGCTAGCTACAACGA TGAACTTT	2282
2488 CAUACCUC A CUGUUCAA 583 TTGAACAG GGCTAGCTACAACGA GAGGTATG 2285 2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA AGTGAGGT 2286 2500 UUCAAGGA A CCUCGGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2287 2507 AACCUCGG A CAAGUUUA 586 TAGACTTG GGCTAGCTACAACGA TCCTTGAA 2288 2511 UCGGACAA G UCUAAUCU 587 AGATTAGA GGCTAGCTACAACGA TAGACTTG 2289 2516 CAAGUCUA A UCUGGAGC 588 GCTCCCAGA GGCTAGCTACAACGA TAGACTTG 2291 2527 UGGACCUA A UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA TAGACTTC 2292 2530 AGCUGAUC A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA CAGCTCCA 2292 2530 AGCUCUAC A UGCACCU 593 CAGGTGCA GGCTAGCTACAACGA TAGATGA 2294 2538 ACUCUACA A UGCACCUG 593 CAGGTGCA GGCTAGCTACAACGA ATGTTAGA 2292 2540 UCUAACAU G CACCUGUG 594 CACAGGT GGCTAGCTACAACGA ATGTTAGA 2296 2542 UAACAUGC G UGUGGACU 595 CACACAGG GGCTAGCTAC	2481	AGUUCAGC A UACCUCAC	581	GTGAGGTA GGCTAGCTACAACGA GCTGAACT	2283
2491 ACCUCACU G UUCAAGGA 584 TCCTTGAA GGCTAGCTACAACGA AGTGAGGT 2286 2500 UUCAAGGA A CCUCGGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2287 2507 AACCUCGG A CAAGUCUA 586 TAGACTTG GGCTAGCTACAACGA CCGAGGTT 2288 2511 UGGGACAA G UCUALUCU 587 AGATTGAG GGCTAGCTACAACGA TTGTCCCA 2289 2516 CAAGUCUA A UCUGAGC 588 GTCCAGA GGCTAGCTACAACGA TAGACTT 2290 2523 AAUCUGGA G UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA CAGCTCCA 2292 2527 UGGAGCUG A UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA CAGCTCCA 2292 2530 AGCUGAUC A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA TAGAGTA 2294 2533 ACCUCAACU A CACUGUG 593 CAGGTGAGCTACAACGA TAGAGTA 2294 2530 UCACAGUG G GCCACUGUG 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGAC 2292 2540 UCAACAUG G UGUGGUG 595 CACACAGG GGCTAGCTACAACGA ACAGGTCA 2298 2544 DAACAUGC G UGGGCUU 596 CAGCCACA GGCTAGCTACAACGA ACAGGTCA	2483	UUCAGCAU A CCUCACUG	582	CAGTGAGG GGCTAGCTACAACGA ATGCTGAA	2284
2500 UUCAAGGA A CCUCGGAC 585 GTCCGAGG GGCTAGCTACAACGA TCCTTGAA 2287 2507 AACCUCGG A CAAGUCUA 586 TAGACTTG GGCTAGCTACAACGA CCGAGGTT 2288 2511 UCGGACAA G UCUAAUCU 587 AGATTAGA GGCTAGCTACAACGA TTGTCCA 2289 2516 CAAGUCUA A UCUGAGC 588 GCTCCAGA GGCTAGCTACAACGA TCCAGATT 2290 2523 AAUCUGGA G CUGAUCAC 589 GTGATCAG GGCTAGCTACAACGA TCCAGATT 2291 2527 UGGACUCUA A CUCUAACA 591 TGTTAGGA GGCTAGCTACAACGA CAGCTCCA 2292 2530 AGCUGAUC A CUCUAACA 591 TGTTAGGA GGCTAGCTACAACGA GATCAGCT 2293 2536 UCACCUCUA A CAUGACC 592 GTGGATG GGCTAGCTACAACGA GATCAGCT 2293 2538 ACUCUAACA UGCACCUG 593 CAGGATGA GGCTAGCTACAACGA ATGGATAGA 2295 2540 UUCUAACAU G CACCUGUG 594 CACAGGT GGCTAGCTACAACGA ATGGATAGA 2295 2541 UAACAUGC A CCUGUUG 596 CACACAGA GGCTAGCTACAACGA ATGGATACA 2297 2548 GCACCUGU G UGCGACU 597 CG	2488	CAUACCUC A CUGUUCAA	583	TTGAACAG GGCTAGCTACAACGA GAGGTATG	2285
2507 AACCUCGG A CAAGUCUA 586 TAGACTTG GGCTAGCTACAACGA CCGAGGTT 2288 2511 UCGGACAA G UCUAAUCU 587 AGATTAGA GGCTAGCTACAACGA TTGTCCGA 2289 2516 CAAGUCUA A UCUGGAGC 588 GCTCAGGA GGCTAGCTACAACGA TAGACTTG 2290 2523 AAUCUGGA G CUGAUCAC 589 GTGATCAG GGCTAGCTACAACGA TCCAGATT 2291 2527 UGGAGCUG A UCUAACA 590 TAGAGTGA GGCTAGCTACAACGA GACCAGCTCCA 2292 2530 AGCUGAUCA A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA GATGAGTA 2294 2538 ACUCUAAC A CUGACCU 592 GGTGACTG GGCTAGCTACACGA GATGAGTA 2294 2538 ACUCUAACA A UGCACCU 593 CAGGTGG GGCTAGCTACAACGA ATGTTAGA 2296 2540 UCUACACU G UGUGGCU 594 CACACAG GGCTAGCTACAACGA ATGTTAGA 2296 2542 UAACACUG U G UGUGGCU 595 CACACAG GGCTAGCTACAACGA ACAGGTGC 2297 2546 AUGACCUU G UGCGACU 598 AGTCGCAG GGCTAGCTACAACGA ACAGGTGC 2299 2551 CCUGUUGU G CUCCUUU 600 GAAGAGAG GGCTAGCTACAACGA AGCAACAG 2301	2491	ACCUCACU G UUCAAGGA	584	TCCTTGAA GGCTAGCTACAACGA AGTGAGGT	2286
2511 UCGGACAA G UCUAAUCU 587 AGATTAGA GGCTAGCTACAACGA TTGTCCGA 2289 2516 CAAGUCUA A UCUGGAGC 588 GCTCCAGA GGCTAGCTACAACGA TAGACTTG 2290 2523 AAUCUGGA G CUGAUCAC 589 GTGATCAG GGCTAGCTACAACGA TCCAGATT 2291 2527 UGGAGGUG A UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA GAGCTCCA 2292 2530 AGCUGAUC A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA TAGAGTGA 2294 2536 UCACUCUA A CAUGCACC 592 GGTGCATG GGCTAGCTACAACGA TAGAGTGA 2294 2538 ACUCUAACA U GCACCUGU 593 CAGGTGCA GGCTAGCTACAACGA TAGTATAGA 2296 2540 UCUAACAU G CACCUGUG 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGA 2296 2541 UAACAUGC A CUUGUGUG 595 CACACAG GGCTAGCTACAACGA ATGTTAGA 2297 2546 AUGCACU G UGUGGACU 598 CAGCCACA GGCTAGCTACAACGA ACAGGTCCA 2298 2551 CCUGUGUG G CUCUGUC 599 AGAGTGG GGCTAGCTACAACGA ACAGGG 2300 2557 UGCUCUCUG G CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA CAGAAGAG 23	2500	UUCAAGGA A CCUCGGAC	585	GTCCGAGG GGCTAGCTACAACGA TCCTTGAA	2287
2516 CAAGUCUA A UCUGGAGC 588 GCTCCAGA GGCTAGCTACAACGA TAGACTTG 2290 2523 AAUCUGGA G CUGAUCAC 589 GTGATCAG GGCTAGCTACAACGA TCCAGATT 2291 2527 UGGAGCUG A UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA CAGCTCCA 2292 2530 AGCUGAUCA A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA GATCAGCT 2293 2536 UCACUCUA A CAUGCACC 592 GGTGCATG GGCTAGCTACAACGA GTTAGAGT 2294 2538 ACUCUAACA U GCACCUGU 593 CAGGTGC GGCTAGCTACAACGA GTTAGAGT 2295 2540 UCUAACAU G CACCUGUC 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGA 2296 2542 UAACAUGC A CUGUGUG 595 CACACAGG GGCTAGCTACAACGA ATGTTAGA 2297 2543 GCACCUGU G UGCGCG 597 CGCAGCCA GGCTAGCTACAACGA ACAGGTGC 2299 2544 GCACCUGU G CGCACCU 598 AGTCGCAG GGCTAGCTACAACGA ACAGACACA 2300 2554 GGUGUGCG A CUCUCU 599 GAGAGTCG GGCTAGCTACAACGA ACAGACACA 2302 2557 UGCGUGCA A UUAACCCU 600 AAGAGAG GGCTAGCTACAACGA AGGAGCCA 2302	2507	AACCUCGG A CAAGUCUA	586	TAGACTTG GGCTAGCTACAACGA CCGAGGTT	2288
2523 AAUCUGGA G CUGAUCAC 589 GTGATCAG GGCTAGCTACAACGA TCCAGATT 2291 2527 UGGAGCUG A UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA CAGCTCCA 2292 2530 AGCUGAUC A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA CAGCTCCA 2292 2536 UCACUCUAA CAUGCACC 592 GGTGCATG GGCTAGCTACAACGA TAGAGTGA 2294 2538 ACUCUAAC A UGCACCUG 592 CAGGTGCA GGCTAGCTACAACGA TAGAGTGA 2294 2538 ACUCUAAC A UGCACCUG 593 CAGGTGCA GGCTAGCTACAACGA GTTAGAGT 2295 2540 UCUAACAUG CACCUGUG 594 CACAGGTG GGCTAGCTACAACGA GTTAGAGT 2296 2542 UAACAUGC A CCUGUGG 595 CACACAGG GGCTAGCTACAACGA ATGTTAGA 2296 2548 GCACCUGU G UGGUGGCG 596 CAGCCAAG GGCTAGCTACAACGA ACGTGTTA 2297 2546 AUGCACCU G UGGUGGCG 597 CGCAGCCA GGCTAGCTACAACGA ACGTGCTAC 2299 2551 CCUGUGUG G UGGCUGCG 597 CGCAGCCA GGCTAGCTACAACGA ACGTGCTC 2299 2551 CCUGUGUG G CGCCAGCU 598 AGTCGCAG GGCTAGCTACAACGA ACAGCAGG 2300 2554 GUGUGGCU G CGCUCUC 599 GAGAGTCG GGCTAGCTACAACGA ACGCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA ACGCACAC 2301 2558 UGCCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA AGGCAGCCA 2302 2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA AGGAAGAG 2303 2578 UCCCUAUUA A CCCUCCUU 602 AGGGTTAA GGCTAACACGA AGGAAGAG 2303 2578 UCCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA AGGAAGAG 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGCA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA TAATAGGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA TTATAGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTATATT 2310 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTTCAGAAG 2307 2627 AAAGAACG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA TTTCAGT 2311 2631 GACUACCU A UCAAUUAU 601 ATAGTTAG GGCTAGCTACAACGA ATTCAGTC 2312 2632 AAAUAAAA A UGAAUAC 608 GTAGCTACAA GGCTAGCTACAACGA ATTCATT 2311 2633 GACUACCU A UCAAUUAUA 611 ATAATTGA GGCTAGCTACAACGA ATTCATT 2311 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA ATTCATT 2311 2634 GACUACCU A UCAAUUAUA 611 ATAATTGA GGCTAGCTACAACGA TATAATTG 2316 2644 CAAUU	2511	UCGGACAA G UCUAAUCU	587	AGATTAGA GGCTAGCTACAACGA TTGTCCGA	2289
2527 UGGAGCUG A UCACUCUA 590 TAGAGTGA GGCTAGCTACAACGA CAGCTCCA 2292 2530 AGCUGAUC A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA GATCAGCT 2293 2536 UCACUCUA A CAUGCACC 592 GGTGAGTACAACGA GATCAACGA 2294 2538 ACUCUAAC A UGCACCUG 593 CAGGTGCA GGCTAGCTACAACGA GTTAGAGT 2295 2540 UCUAACAU G CACCUGUG 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGA 2295 2542 UAACAUGC A CUUGUGG 595 CACACAGG GGCTAGCTACAACGA ATGTTAGA 2297 2546 AUGCACCU G UGGGUG 596 CAGCCACA GGCTAGCTACAACGA ACGTGCTA 2298 2548 GCACCUGU G UGCGACU 598 AGTCGCAG GGCTAGCTACAACGA AGCCACAC 2299 2551 CUGUGUGG G CUCCUAUU 600 GAAGAGAG GGCTAGCTACAACGA AGCACAC 2301 2557 UGGCUCCU A UUAACCCU 601 AATAGGAG GGCTAGCTACAACGA AGCACAC 2302 2568 CUCUUCUG G CUCCUCUU 601 AATAGGAG GGCTAGCTACAACGA CAGAACAG 2304 2574 UGGCUCCU A UUAACCCU 602 AGGTTAA GCTAGCTACAACGA TATATAGA	2516	CAAGUCUA A UCUGGAGC	588	GCTCCAGA GGCTAGCTACAACGA TAGACTTG	2290
2530 AGCUGAUC A CUCUAACA 591 TGTTAGAG GGCTAGCTACAACGA GATCAGCT 2293 2536 UCACUCUA A CAUGCACC 592 GGTGCATG GGCTAGCTACAACGA TAGAGTGA 2294 2538 ACUCUAACA MUCAACAU 593 CAGGTGCA GGCTAGCTACAACGA ATTTAGAG 2295 2540 UCUAACAU G CACCUGU 594 CACAGGT GGCTAGCTACAACGA AGTTAGTA 2297 2542 UAACAUGC A CUGUGUG 595 CACACAGG GGCTAGCTACAACGA AGTGTAT 2297 2548 GCACCUGU GUGGUGCG 597 CGCAGCCA GGCTAGCTACAACGA AGGTGCA 2299 2551 CCUGUGUG GUGUCCU 598 AGTCGCAG GGCTAGCTACAACGA AGCACAC 2300 2557 UGGCUGCG A CUCUCUU 600 GAAGAGAG GGCTAGCTACAACGA AGCACAC 2301 2557 UGGCUCCU A UAACCCU 601 AATGGGA GGCTAGCTACAACGA AGGAAGAC 2302 2578 UCCUCUUA </td <td>2523</td> <td>AAUCUGGA G CUGAUCAC</td> <td>589</td> <td>GTGATCAG GGCTAGCTACAACGA TCCAGATT</td> <td>2291</td>	2523	AAUCUGGA G CUGAUCAC	589	GTGATCAG GGCTAGCTACAACGA TCCAGATT	2291
2536 UCACUCUA A CAUGCACC 592 GGTGCATG GGCTAGCTACAACGA TAGAGTGA 2294 2538 ACUCUAAC A UGCACCUG 593 CAGGTGCA GGCTAGCTACAACGA GTTAGAGT 2295 2540 UCUAACAU G CACCUGUG 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGA 2296 2542 UAACAUGC A CCUGUGUG 595 CACACAGG GGCTAGCTACAACGA AGGTGCAT 2297 2546 AUGCACCU G UGUGCUG 596 CAGCCACA GGCTAGCTACAACGA AGGTGCAT 2298 2548 GCACUGU G UGGCUGC 597 CGCAGCCA GGCTAGCTACAACGA AGGCACAGG 2300 2551 CCUGUGUG G CUGCGACU 598 AGTCGCAG GGCTAGCTACAACGA AGCACACAG 2301 2554 GUGUGGCU G CGACUCUC 599 GAGAGTG GGCTAGCTACAACGA AGCACACA 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA AGCACACA 2302 2558 CUCUUUUG G CUCUCUUU 601 AAGGAGG GGCTAGCTACAACGA AGGACACA 2302 2574 UGGCUCU A UUAACCCU 602 AGGTTAG GGCTAGCTACAACGA AGGACACA 2302 2587 CCCUCUUA A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AGGACGA 2306 </td <td>2527</td> <td>UGGAGCUG A UCACUCUA</td> <td>590</td> <td>TAGAGTGA GGCTAGCTACAACGA CAGCTCCA</td> <td>2292</td>	2527	UGGAGCUG A UCACUCUA	590	TAGAGTGA GGCTAGCTACAACGA CAGCTCCA	2292
2538 ACUCUAAC A UGCACCUG 593 CAGGTGCA GGCTAGCTACAACGA GTTAGACT 2295 2540 UCUAACAU G CACCUGUG 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGA 2296 2542 UAACAUGC A CCUGUGUG 595 CACACAGG GGCTAGCTACAACGA AGGTACTA 2297 2546 AUGCACCU G UGUGUGG 596 CAGCCACA GGCTAGCTACAACGA AGGTGCAT 2298 2548 GCACCUGU G UGCGGACU 598 AGTCGCAG GGCTAGCTACAACGA ACACACAGG 2300 2551 CCUGUGUG G CUGCGACU 599 GAGAGTCG GGCTAGCTACAACGA ACCACACG 2301 2554 GUGUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA AGCCACAC 2301 2557 UGGCUCCU A UNAACCCU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGGA 2302 2568 CUCUUCUG G CUCCUUU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGGA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA AGGAGCA 2304 2578 UCCUAUUA A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA TTTTCGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA TTTTCGA 2307<	2530	AGCUGAUC A CUCUAACA	591	TGTTAGAG GGCTAGCTACAACGA GATCAGCT	2293
2540 UCUAACAU G CACCUGUG 594 CACAGGTG GGCTAGCTACAACGA ATGTTAGA 2296 2542 UAACAUGC A CCUGUGUG 595 CACACAGG GGCTAGCTACAACGA GCATGTTA 2297 2546 AUGCACCU G UGUGGCUG 596 CAGCCACA GGCTAGCTACAACGA AGGTGCAT 2298 2548 GCACCUGU G UGGCUGC 597 CGCAGCCA GGCTAGCTACAACGA ACACACGG 2300 2554 GUGUGGCU G CGACUCUC 599 GAGAGTGG GGCTAGCTACAACGA AGCCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA AGCCACAC 2302 2558 CUCUUCUG G CUCCUAUU 601 AATAGGA GGCTAGCTACAACGA CAGAAGGA 2302 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTAGCTACAACGA AGGACCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA AGGACCA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA ATATAGGA 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA CTTTTCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTA GGCTAGCTACAACGA CTTTCAT	2536	UCACUCUA A CAUGCACC	592	GGTGCATG GGCTAGCTACAACGA TAGAGTGA	2294
2542 UAACAUGC A CCUGUGUG 595 CACACAGG GGCTAGCTACAACGA GCATGTTA 2297 2546 AUGCACCU G UGUGGCUG 596 CAGCCACA GGCTAGCTACAACGA AGGTGCAT 2298 2548 GCACCUGU G UGGCUGCG 597 CGCAGCCA GGCTAGCTACAACGA ACAGGTGC 2299 2551 CCUGUGUG G CUGCGACU 598 AGTCGCAG GGCTAGCTACAACGA CACACACG 2300 2554 GUGUGGC G CUCCUCUC 599 GAGAGTG GGCTAGCTACAACGA CGCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA CGCACAC 2302 2558 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CAGACACAC 2302 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTACAACGA AGGAGCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA ATATAGGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTACCAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTACAACGA TTTCATA 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTACAACGA TTTCAACGA CTTTCTT 2310	2538	ACUCUAAC A UGCACCUG	593	CAGGTGCA GGCTAGCTACAACGA GTTAGAGT	2295
2546 AUGCACCU G UGUGGCUG 596 CAGCCACA GGCTAGCTACAACGA AGGTGCAT 2298 2548 GCACCUGU G UGGCUGCG 597 CGCAGCCA GGCTAGCTACAACGA ACAGGTGC 2299 2551 CCUGUGUG G CUGCGACU 598 AGTCGCAG GGCTAGCTACAACGA CACACAGG 2300 2554 GUGUGGCG A CUCUCUC 599 GAGAGTCG GGCTAGCTACAACGA AGCCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAACAGAG GGCTAGCTACAACGA CAGAAGAG 2302 2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGAG 2303 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAG AGGAGAGG GGCTAGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA TAATAAGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA ATAGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTACAACGA TTTCCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTTCATT 2310 2627 AAGACUG A CUGACUAC 608 GTAGCTAGCTACAACGA CAGTCATT	2540	UCUAACAU G CACCUGUG	594	CACAGGTG GGCTAGCTACAACGA ATGTTAGA	2296
2548 GCACCUGU G UGGCUGCG 597 CGCAGCCA GGCTAGCTACAACGA ACAGGTGC 2299 2551 CCUGUGUG G CUGCGACU 598 AGTCGCAG GGCTAGCTACAACGA CACACAGG 2300 2554 GUGUGGCU G CGACUCUC 599 GAGAGTCG GGCTAGCTACAACGA AGCCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA CGCAGCCA 2302 2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CGAAAGAG 2303 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTAGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGCAGGG GGCTAGCTACAACGA TAATAGGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA TTTTCGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTCAGAA 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTTATTT 2310 2627 AAAAUAAAG AUGACUAC 608 GTAGGTAGCTACAACGA CTTTATT 2311 2630 GACUGACU A CCAACUAC 609 ATTAGTAG GGCTAGCTACAACGA CAGTCTT	2542	UAACAUGC A CCUGUGUG	595	CACACAGG GGCTAGCTACAACGA GCATGTTA	2297
2551 CCUGUGUG G CUGCGACU 598 AGTCGCAG GGCTAGCTACAACGA CACACAGG 2300 2554 GUGUGGCU G CGACUCUC 599 GAGAGTCG GGCTAGCTACAACGA AGCCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA CGCAGCCA 2302 2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGAG 2303 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA AGGAGGG 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTACAACGA TTTTCGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA CTTTTCAT 2308 2617 CUUCUGAA A UCAACUAC 608 GTAGTTAG GGCTAGCTACAACGA CTTTTTT 2310 2627 AAAGACUG A CUAUCAA 609 ATAGGTAG GGCTAGCTACAACGA AGGTCTTT 2311 2630 GACUGACU A CUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGT <	2546	AUGCACCU G UGUGGCUG	596	CAGCCACA GGCTAGCTACAACGA AGGTGCAT	2298
2554 GUGUGGCU G CGACUCUC 599 GAGAGTCG GGCTAGCTACAACGA AGCCACAC 2301 2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA CGCAGCCA 2302 2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGAG 2303 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTAGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA AGGAGCCA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA AAGGAGGG 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTTCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CTTTATT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGT 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGTCAGT 2312 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA AGTCAGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA ATTGATA 2315 2644 CAAUUAUA A UAGAGCCA 614 TGGGTCCA GGCTAGCTACAACGA AATTGATA 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CATTATAT 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CATTATA 2317 2659 CAGAUGAA G UUCCUUG 617 CAAAGGAA GGCTAGCTACAACGA CTGTGGTC 2318 2659 CAGAUGAA G UUCCUUG 617 CAAAGGAA GGCTAGCTACAACGA CTGTGGTC 2318 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUAA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2548	GCACCUGU G UGGCUGCG	597	CGCAGCCA GGCTAGCTACAACGA ACAGGTGC	2299
2557 UGGCUGCG A CUCUCUUC 600 GAAGAGAG GGCTAGCTACAACGA CGCAGCCA 2302 2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGAG 2303 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTAGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA AGGAGCCA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA AAGGAGGG 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGTCAGTC 2312 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UAGAGCCA 614 TGGGTCCA GGCTAGCTACAACGA AATTGATA 2316 2648 UAUAAUG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CCATTATA 2317 2659 CAGAUGAA G UUCCUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAATATA 2317	2551	CCUGUGUG G CUGCGACU	598	AGTCGCAG GGCTAGCTACAACGA CACACAGG	2300
2568 CUCUUCUG G CUCCUAUU 601 AATAGGAG GGCTAGCTACAACGA CAGAAGAG 2303 2574 UGGCUCCU A UUAACCCU 602 AGGGTTAA GGCTAGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA TAATAGGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA TAATAGGA 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA AAGGAGGG 2306 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA CTTTCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2312 2638 ACCUAUCA A UUAUAAUG 612 CATTATAG GGCTAGCTACAACGA AGGTAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CCATTATA 2317 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320	2554	GUGUGGCU G CGACUCUC	599	GAGAGTCG GGCTAGCTACAACGA AGCCACAC	2301
2574 UGGCUCU A UUAACCCU 602 AGGGTTAA GGCTAGCTACAACGA AGGAGCCA 2304 2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA TAATAGGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTTCGA 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCATT 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGTAGTC 2312 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA TTCATCTG 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2557	UGGCUGCG A CUCUCUUC	600	GAAGAGAG GGCTAGCTACAACGA CGCAGCCA	2302
2578 UCCUAUUA A CCCUCCUU 603 AAGGAGGG GGCTAGCTACAACGA TAATAGGA 2305 2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA ATTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA TTTTCGGA 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA TTCAGAAG 2309 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CATTCTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCATT 2311 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA AGTAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTTGATTA 2317 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA TTCATCTG 2319 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA CCAAAAGGA 2320	2568	CUCUUCUG G CUCCUAUU	601	AATAGGAG GGCTAGCTACAACGA CAGAAGAG	2303
2587 CCCUCCUU A UCCGAAAA 604 TTTTCGGA GGCTAGCTACAACGA AAGGAGGG 2306 2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA CTTTTCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGTCAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA AGTAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGAA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2574	UGGCUCCU A UUAACCCU	602	AGGGTTAA GGCTAGCTACAACGA AGGAGCCA	2304
2596 UCCGAAAA A UGAAAAGG 605 CCTTTTCA GGCTAGCTACAACGA TTTTCGGA 2307 2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA CTTTTCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA CCAAAAGGA 2321	2578	UCCUAUUA A CCCUCCUU	603	AAGGAGGG GGCTAGCTACAACGA TAATAGGA	2305
2604 AUGAAAAG G UCUUCUUC 606 GAAGAAGA GGCTAGCTACAACGA CTTTTCAT 2308 2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA CCAAAGGA 2321	2587	CCCUCCUU A UCCGAAAA	604	TTTTCGGA GGCTAGCTACAACGA AAGGAGGG	2306
2617 CUUCUGAA A UAAAGACU 607 AGTCTTTA GGCTAGCTACAACGA TTCAGAAG 2309 2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGAA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2596	UCCGAAAA A UGAAAAGG	605	CCTTTTCA GGCTAGCTACAACGA TTTTCGGA	2307
2623 AAAUAAAG A CUGACUAC 608 GTAGTCAG GGCTAGCTACAACGA CTTTATTT 2310 2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2604	AUGAAAAG G UCUUCUUC	606	GAAGAAGA GGCTAGCTACAACGA CTTTTCAT	2308
2627 AAAGACUG A CUACCUAU 609 ATAGGTAG GGCTAGCTACAACGA CAGTCTTT 2311 2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGAA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2617	CUUCUGAA A UAAAGACU	607	AGTCTTTA GGCTAGCTACAACGA TTCAGAAG	2309
2630 GACUGACU A CCUAUCAA 610 TTGATAGG GGCTAGCTACAACGA AGTCAGTC 2312 2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGAA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2623	AAAUAAAG A CUGACUAC	608	GTAGTCAG GGCTAGCTACAACGA CTTTATTT	2310
2634 GACUACCU A UCAAUUAU 611 ATAATTGA GGCTAGCTACAACGA AGGTAGTC 2313 2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGAA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2627	AAAGACUG A CUACCUAU	609	ATAGGTAG GGCTAGCTACAACGA CAGTCTTT	2311
2638 ACCUAUCA A UUAUAAUG 612 CATTATAA GGCTAGCTACAACGA TGATAGGT 2314 2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2630	GACUGACU A CCUAUCAA	610	TTGATAGG GGCTAGCTACAACGA AGTCAGTC	2312
2641 UAUCAAUU A UAAUGGAC 613 GTCCATTA GGCTAGCTACAACGA AATTGATA 2315 2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2634	GACUACCU A UCAAUUAU	611	ATAATTGA GGCTAGCTACAACGA AGGTAGTC	2313
2644 CAAUUAUA A UGGACCCA 614 TGGGTCCA GGCTAGCTACAACGA TATAATTG 2316 2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2638	ACCUAUCA A UUAUAAUG	612	CATTATAA GGCTAGCTACAACGA TGATAGGT	2314
2648 UAUAAUGG A CCCAGAUG 615 CATCTGGG GGCTAGCTACAACGA CCATTATA 2317 2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2641	UAUCAAUU A UAAUGGAC	613	GTCCATTA GGCTAGCTACAACGA AATTGATA	2315
2654 GGACCCAG A UGAAGUUC 616 GAACTTCA GGCTAGCTACAACGA CTGGGTCC 2318 2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2644	CAAUUAUA A UGGACCCA	614	TGGGTCCA GGCTAGCTACAACGA TATAATTG	2316
2659 CAGAUGAA G UUCCUUUG 617 CAAAGGAA GGCTAGCTACAACGA TTCATCTG 2319 2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2648	UAUAAUGG A CCCAGAUG	615	CATCTGGG GGCTAGCTACAACGA CCATTATA	2317
2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2654	GGACCCAG A UGAAGUUC	616	GAACTICA GGCTAGCTACAACGA CTGGGTCC	2318
2669 UCCUUUGG A UGAGCAGU 618 ACTGCTCA GGCTAGCTACAACGA CCAAAGGA 2320 2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321	2659	CAGAUGAA G UUCCUUUG	617	CAAAGGAA GGCTAGCTACAACGA TTCATCTG	2319
2673 UUGGAUGA G CAGUGUGA 619 TCACACTG GGCTAGCTACAACGA TCATCCAA 2321		UCCUUUGG A UGAGCAGU	618	ACTGCTCA GGCTAGCTACAACGA CCAAAGGA	2320
2676 GAUGAGCA G UGUGAGCG 620 CGCTCACA GGCTAGCTACAACGA TGCTCATC 2322	2673	UUGGAUGA G CAGUGUGA	619	TCACACTG GGCTAGCTACAACGA TCATCCAA	2321
		GAUGAGCA G UGUGAGCG	620	CGCTCACA GGCTAGCTACAACGA TGCTCATC	2322

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2670	Handandh a Handada		CCCCCCCA CCCCCACACACACACACACACACACACACA	
2678 2682	UGAGCAGU G UGAGCGGC	621	GCCGCTCA GGCTAGCTACAACGA ACTGCTCA	
2685	CAGUGUGA G CGGCUCCC UGUGAGCG G CUCCCUUA	622	GGGAGCCG GGCTAGCTACAACGA TCACACTG	
2693		623	TAAGGGAG GGCTAGCTACAACGA CGCTCACA	2325
2696	CCCUUAUG A UGCCAGCA	624	TGGCATCA GGCTAGCTACAACGA AAGGGAGC	2326
2698	CUUAUGAU G CCAGCAAG	625 626	TGCTGGCA GGCTAGCTACAACGA CATAAGGG	2327
2702			CTTGCTGG GGCTAGCTACAACGA ATCATAAG	2328
2706	UGAUGCCA G CAAGUGGG	627	CCCACTTG GGCTAGCTACAACGA TGGCATCA	2329
2712	AAGUGGGA G UUUGCCCG	628	AACTCCCA GGCTAGCTACAACGA TTGCTGGC	2330
2716	GGGAGUUU G CCCGGGAG	629	CGGGCAAA GGCTAGCTACAACGA TCCCACTT	2331
2727		630	CTCCCGGG GGCTAGCTACAACGA AAACTCCC	2332
2733	CGGGAGAG A CUUAAACU	631	AGTTTAAG GGCTAGCTACAACGA CTCTCCCG	
2738	AGACUUAA A CUGGGCAA	632	TTGCCCAG GGCTAGCTACAACGA TTAAGTCT	2334
2742	UAAACUGG G CAAAUCAC CUGGGCAA A UCACUUGG	633	GTGATTTG GGCTAGCTAGAACGA CCAGTTTA	2335
2742		634	CCAAGTGA GGCTAGCTACAACGA TTGCCCAG	2336
	GGCAAAUC A CUUGGAAG	635	CTTCCAAG GGCTAGCTACAACGA GATTTGCC	
2758	GAAGAGGG G CUUUUGGA	636	TCCAAAAG GGCTAGCTACAACGA CCCTCTTC	2338
2773	UUGGAAAA G UGGUUCAA	637	TTGAACCA GGCTAGCTACAACGA TTTTCCAA	2339
	GAAAAGUG G UUCAAGCA	638	TGCTTGAA GGCTAGCTACAACGA CACTTTTC	2340
2779	UGGUUCAA G CAUCAGCA	639	TGCTGATG GGCTAGCTACAACGA TTGAACCA	2341
2781	GUUCAAGC A UCAGCAUU	640	AATGCTGA GGCTAGCTACAACGA GCTTGAAC	2342
2785	AAGCAUCA G CAUUUGGC	641	GCCAAATG GGCTAGCTACAACGA TGATGCTT	2343
	GCAUCAGC A UUUGGCAU	642	ATGCCAAA GGCTAGCTACAACGA GCTGATGC	2344
2792	AGCAUUUG G CAUUAAGA	643	TCTTAATG GGCTAGCTACAACGA CAAATGCT	2345
2794	CAUUUGGC A UUAAGAAA	644	TTTCTTAA GGCTAGCTACAACGA GCCAAATG	
2802	AUUAAGAA A UCACCUAC	645	GTAGGTGA GGCTAGCTACAACGA TTCTTAAT	2347
2805	AAGAAAUC A CCUACGUG	646	CACGTAGG GGCTAGCTACAACGA GATTTCTT	2348
2809	AAUCACCU A CGUGCCGG	647	CCGGCACG GGCTAGCTACAACGA AGGTGATT	2349
2811	UCACCUAC G UGCCGGAC	648	GTCCGGCA GGCTAGCTACAACGA GTAGGTGA	2350
2813	ACCUACGU G CCGGACUG	649	CAGTCCGG GGCTAGCTACAACGA ACGTAGGT	2351
2818	CGUGCCGG A CUGUGGCU	650	AGCCACAG GGCTAGCTACAACGA CCGGCACG	2352
2824	GCCGGACU G UGGCUGUG	651	CACAGCCA GGCTAGCTACAACGA AGTCCGGC	2353
2827	GGACUGUG G CUGUGAAA	652	TTTCACAG GGCTAGCTACAACGA CACAGTCC	2354
	CUGUGGCU G UGAAAAUG	653	CATTITCA GGCTAGCTACAACGA AGCCACAG	2355
2833	CUGUGAAA A UGCUGAAA	654	TTTCAGCA GGCTAGCTACAACGA TTTCACAG	2356
2835	GUGAAAAU G CUGAAAGA	655	TCTTTCAG GGCTAGCTACAACGA ATTTTCAC	2357
2848	AAGAGGGG G CCACGGCC	656	GGCCGTGG GGCTAGCTACAACGA CCCCTCTT	2358
2851	AGGGGGCC A CGGCCAGC	657	GCTGGCCG GGCTAGCTACAACGA GGCCCCCT	2359
2854	GGGCCACG G CCAGCGAG	658	CTCGCTGG GGCTAGCTACAACGA CGTGGCCC	2360
2858 2862	CACGGCCA G CGAGUACA	659	TGTACTCG GGCTAGCTACAACGA TGGCCGTG	
	GCCAGCGA G UACAAAGC	660	GCTTTGTA GGCTAGCTACAACGA TCGCTGGC	2362
2864	CAGCGAGU A CAAAGCUC	661	GAGCTTTG GGCTAGCTACAACGA ACTCGCTG	2363
2869	AGUACAAA G CUCUGAUG	662	CATCAGAG GGCTAGCTACAACGA TTTGTACT	2364
2875	AAGCUCUG A UGACUGAG	663	CTCAGTCA GGCTAGCTACAACGA CAGAGCTT	2365
2878	CUCUGAUG A CUGAGCUA	664	TAGCTCAG GGCTAGCTACAACGA CATCAGAG	2366
2883	AUGACUGA G CUAAAAAU	665	ATTTTAG GGCTAGCTACAACGA TCAGTCAT	2367
2890	AGCUAAAA A UCUUGACC	666	GGTCAAGA GGCTAGCTACAACGA TTTTAGCT	2368
2896	AAAUCUUG A CCCACAUU	667	AATGIGGG GGCTAGCTACAACGA CAAGATTT	2369
2900	CUUGACCC A CAUUGGCC	668	GGCCAATG GGCTAGCTACAACGA GGGTCAAG	2370
2902	UGACCCAC A UUGGCCAC	669	GTGGCCAA GGCTAGCTACAACGA GTGGGTCA	2371
2906	CCACAUUG G CCACCAUC	670	GATGGTGG GGCTAGCTACAACGA CAATGTGG	2372
2909	CAUUGGCC A CCAUCUGA	671	TCAGATGG GGCTAGCTACAACGA GGCCAATG	2373
2912	UGGCCACC A UCUGAACG	672	CGTTCAGA GGCTAGCTACAACGA GGTGGCCA	2374

			TO DESCRIPTION OF THE PROPERTY	2275
2918	CCAUCUGA A CGUGGUUA	673		2375
2920	AUCUGAAC G UGGUUAAC	674	GTTAACCA GGCTAGCTACAACGA GTTCAGAT	2376
2923	UGAACGUG G UUAACCUG	675	CAGGTTAA GGCTAGCTACAACGA CACGTTCA	2377
2927	CGUGGUUA A CCUGCUGG	676	CCAGCAGG GGCTAGCTACAACGA TAACCACG	2378
2931	GUUAACCU G CUGGGAGC	677	GCTCCCAG GGCTAGCTACAACGA AGGTTAAC	2379
2938	UGCUGGGA G CCUGCACC	678	GGTGCAGG GGCTAGCTACAACGA TCCCAGCA	2380
2942	GGGAGCCU G CACCAAGC	679	GCTTGGTG GGCTAGCTACAACGA AGGCTCCC	2381
2944	GAGCCUGC A CCAAGCAA	680	TTGCTTGG GGCTAGCTACAACGA GCAGGCTC	2382
2949	UGCACCAA G CAAGGAGG	681	CCTCCTTG GGCTAGCTACAACGA TTGGTGCA	2383
2958	CAAGGAGG G CCUCUGAU	682	ATCAGAGG GGCTAGCTACAACGA CCTCCTTG	2384
2965	GGCCUCUG A UGGUGAUU	683	AATCACCA GGCTAGCTACAACGA CAGAGGCC	2385
2968	CUCUGAUG G UGAUUGUU	684	AACAATCA GGCTAGCTACAACGA CATCAGAG	2386
2971	UGAUGGUG A UUGUUGAA	685	TTCAACAA GGCTAGCTACAACGA CACCATCA	2387
2974	UGGUGAUU G UUGAAUAC	686	GTATTCAA GGCTAGCTACAACGA AATCACCA	2388
2979	AUUGUUGA A UACUGCAA	687	TTGCAGTA GGCTAGCTACAACGA TCAACAAT	2389
2981	UGUUGAAU A CUGCAAAU	688	ATTTGCAG GGCTAGCTACAACGA ATTCAACA	2390
2984	UGAAUACU G CAAAUAUG	689	CATATTTG GGCTAGCTACAACGA AGTATTCA	2391
2988	UACUGCAA A UAUGGAAA	690	TTTCCATA GGCTAGCTACAACGA TTGCAGTA	2392
2990	CUGCAAAU A UGGAAAUC	691	GATTTCCA GGCTAGCTACAACGA ATTTGCAG	2393
2996	AUAUGGAA A UCUCUCCA	692	TGGAGAGA GGCTAGCTACAACGA TTCCATAT	2394
3005	UCUCUCCA A CUACCUCA	693	TGAGGTAG GGCTAGCTACAACGA TGGAGAGA	2395
3008	CUCCAACU A CCUCAAGA	694	TCTTGAGG GGCTAGCTACAACGA AGTTGGAG	2396
3017	CCUCAAGA G CAAACGUG	695	CACGTTTG GGCTAGCTACAACGA TCTTGAGG	2397
3021	AAGAGCAA A CGUGACUU	696	AAGTCACG GGCTAGCTACAACGA TTGCTCTT	2398
3023	GAGCAAAC G UGACUUAU	697	ATAAGTCA GGCTAGCTACAACGA GTTTGCTC	2399
3026	CAAACGUG A CUUAUUUU	698	AAAATAAG GGCTAGCTACAACGA CACGTTTG	2400
3030	CGUGACUU A UUUUUUCU	699	AGAAAAAA GGCTAGCTACAACGA AAGTCACG	2401
3041	UUUUCUCA A CAAGGAUG	700 701	CATCCTTG GGCTAGCTACAACGA TGAGAAAA GTGCTGCA GGCTAGCTACAACGA CCTTGTTG	2402
3047	CAACAAGG A UGCAGCAC ACAAGGAU G CAGCACUA	701	TAGTGCTG GGCTAGCTACAACGA ATCCTTGT	2404
3052	ACAAGGAO G CAGCACOA AGGAUGCA G CACUACAC	702	GTGTAGTG GGCTAGCTACAACGA TGCATCCT	2405
3054	GAUGCAGC A CUACACAU	704	ATGTGTAG GGCTAGCTACAACGA GCTGCATC	2406
3054	GCAGCACU A CACAUGGA	704	TCCATGTG GGCTAGCTACAACGA AGTGCTGC	2407
3059	AGCACUAC A CAUGGAGC	706	GCTCCATG GGCTAGCTACAACGA GTAGTGCT	2408
3061	CACUACAC A UGGAGCCU	707	AGGCTCCA GGCTAGCTACAACGA GTGTAGTG	2409
3066	CACAUGGA G CCUAAGAA	708	TTCTTAGG GGCTAGCTACAACGA TCCATGTG	2410
3082	AAGAAAAA A UGGAGCCA	709	TGGCTCCA GGCTAGCTACAACGA TTTTTCTT	2411
3082	AAAAUGGA G CCAGGCCU	710	AGGCTGG GGCTAGCTACAACGA TCCATTTT	2412
3092	GGAGCCAG G CCUGGAAC	711	GTTCCAGG GGCTAGCTACAACGA CTGGCTCC	2413
3099	GGCCUGGA A CAAGGCAA	712	TTGCCTTG GGCTAGCTACAACGA TCCAGGCC	2414
3104	GGAACAAG G CAAGAAAC	713	GTTTCTTG GGCTAGCTACAACGA CTTGTTCC	2415
3111	GGCAAGAA A CCAAGACU	713	AGTCTTGG GGCTAGCTACAACGA TTCTTGCC	2416
3117	AAACCAAG A CUAGAUAG	715	CTATCTAG GGCTAGCTACAACGA CTTGGTTT	2417
3122	AAGACUAG A UAGCGUCA	716	TGACGCTA GGCTAGCTACAACGA CTAGTCTT	2418
3125	ACUAGAUA G CGUCACCA	717	TGGTGACG GGCTAGCTACAACGA TATCTAGT	2419
3127	UAGAUAGC G UCACCAGC	718	GCTGGTGA GGCTAGCTACAACGA GCTATCTA	2420
3130	AUAGCGUC A CCAGCAGC	719	GCTGCTGG GGCTAGCTACAACGA GACGCTAT	2421
3134	CGUCACCA G CAGCGAAA	720	TTTCGCTG GGCTAGCTACAACGA TGGTGACG	2422
3137	CACCAGCA G CGAAAGCU	721	AGCTTTCG GGCTAGCTACAACGA TGCTGGTG	2423
3143	CAGCGAAA G CUUUGCGA	722	TCGCAAAG GGCTAGCTACAACGA TTTCGCTG	2424
3148	AAAGCUUU G CGAGCUCC	723	GGAGCTCG GGCTAGCTACAACGA AAAGCTTT	2425
3152	CUUUGCGA G CUCCGGCU	724	AGCCGGAG GGCTAGCTACAACGA TCGCAAAG	2426
	_ cocceded	1 '2"	DAMADOLI ADDRIDOLITOCIA LEGENARG	2720

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3158 GAGCUCCO G CUUUCAGO 725 CCTRARAS GCTRACTACAGGA COGAGCTC 2427 3170 LOCAGGAA NAAAAGUC 726 GACTTTTA GGCTRACTACAAGGA TCTCCTGTG 2429 3176 AGRINAAR G UCUURAGG 727 CACTCACA GGCTAGCTACAAGGA TCTCCTGTG 2430 3182 AAGUUGA G UGAUGUUG 728 CARCATCA GGCTAGCTACAACGA TCTCAGCT 2430 3185 LUCUGAGGA NACCCC 729 CCTCAACA GGCTAGCTACAACGA TCAGACTT 2430 3187 UGAGGAGA UGUUGAGGA 730 TTCCTCAA GGCTAGCTACAACGA ACCCCAGA 2431 3187 UGAGGAGA G UGUUGGAGG 731 CGTCAGAA GGCTAGCTACAACGA ACCCCAGA 2431 3203 AGRAGAGA G UUCUGACG 731 CGTCAGAA GGCTAGCTACAACGA ACCCCCAGA 2432 3218 CGGUUUCU A CAGGGUUCU 732 AGRAACCG GGCTAGCTACAACGA CAGAACCC 2434 3218 CGGUUUCU A CAAGGAGC 733 TCTAGAAA GGCTAGCTACAACGA CAGAACCC 2435 3218 CGGUUUCU A CAAGGAGC 737 GCTCCTTG GGCTTAGCACGAA GAAAACCG 2435 3229 AGGACCC A UCACUAUG 736 CATAGTGG GGCTAGCTACAACGA CAGAACCC 2437 3229 AGGACCC A UCACUAUG 736 CATAGTGG GGCTAGCTACAACGA CAGAACCC 2439 3232 AGCCCAUC A UCACUAUG 736 CATAGTGG GGCTAGCTACAACGA GATGGGCT 2439 3232 AGCCCAUC A UCACUAUG 736 CATAGTGG GGCTAGCTACAACGA GATGGGCT 2439 3232 AGCCCAUC A UCACUAUG 736 CATAGTGA GGCTAGCTACAACGA GATGGGCT 2439 3232 AGCCCAUC A UCACUAUG 736 CATAGTGA GGCTAGCTACAACGA GATGGGCT 2439 3232 AGCCCAUC A UCACUAUG 736 CATAGTGA GGCTAGCTACAACGA GATGGGCT 2439 3232 AGCCCAUC A UCACUAUG 738 ATCTCCA GGCTAGCTACAACGA GATGGGCT 2439 3232 AGCCCAUC A UCACUAUG 738 ATCTCCA GGCTAGCTACAACGA GATGGGCT 2449 3242 UUCAGAAG UUUCUUC 741 GAAAACT GGCTAGCTACAACGA CAGAACT 2449 3243 AGAUUCUU A CAGUUUC 741 GAAAACT GGCTAGCTACAACGA CAGAACT 2449 3254 AGAUUCUUA A CAGUUUC 741 GAAAACT GGCTACAACGA CAGAACT 2443 3255 UUCUACA G UUUCUAC 740 GTAGAAA GGCTAGCTACAACGA CAGAACT 2443 3256 UUCAACGU UUUCAGA 742 CCTTGAAAA GGCTAGCTACAACGA CAGAACT 2443 3257 UUCUACA G UUUCUAC 744 CCCTCGG GGCTAGCTACAACGA CAGAACT 2443 3258 UUCUACA G UUUCUAC 744 CCCTCGG GGCTAGCTACAACGA CAGAACT 2443 3259 AGCACUG G CAGAAGC 744 CCCTCGG GGCTAGCTACAACGA CAGAACT 2443 3260 UUCAAGAG UUCUCUAC 749 CACAGAGA GGCTAGCTACAACGA CCCTTGGC 2447 3277 CCAGAGGC A UUCCUAC 749 CACAGAGA GGCTAGCTACAACGA CCCTTGGC 2447 3360 UUCACAGA UUCUCUAC 749 CACAGAGA GGCTAGCTACAACGA					
3176	3158	GAGCUCCG G CUUUCAGG	725		
3162 RAGICUGA G UGAUGUUG 728 CARCATCA GGCTAGCTACAACGA TCAGACTY 2430	3170	UCAGGAAG A UAAAAGUC	726	GACTTTTA GGCTAGCTACAACGA CTTCCTGA	2428
1815	3176	AGAUAAAA G UCUGAGUG	727	CACTCAGA GGCTAGCTACAACGA TTTTATCT	2429
3167	3182	AAGUCUGA G UGAUGUUG	728	CAACATCA GGCTAGCTACAACGA TCAGACTT	2430
2033 AGAGGAGG A UUCUGACG 731 CGTCAGAA GGCTAGCTACAACGA CCTCTCT 2433 3209 GGAUUCUG A CGGUUUCU 732 AGAAACCG GGCTAGCTACAACGA CGAAATCC 2434 2435 24321 UUCUGACG G UUUCUGACG UUUCUGACG UUUCUGACG UUUCUGACG UUUCUGACG UUUCUGACG UUUCUGACG CUUUCUGACG CUUCUGACG CUUCUGACG CUUCUGACG CUACUGAGG CACAGAGGC 2436 GCTCCTTG GGCTAGCTACAACGA AGAAACCG 2436 3225 UACAAGGA CACAGAGG 734 GCTCCTTG GGCTAGCTACAACGA AGAAACCG 2436 3225 UACAAGGA CACAGAGG 736 CATAGAGG GGCTAGCTACAACGA AGAAACCG 2438 3229 AGGCCAUC CUACUGAGA 736 CATAGAGG GGCTAGCTACAACGA GGGTCCT 2438 3232 AGCCCAUC CUAUGGAA 737 TTCCATAG GGCTAGCTACAACGA GGGTCCT 2439 3235 CCAUCACU UUUCUACA 738 AATCTCCA GGCTAGCTACAACGA AGTGGGC 2440 3241 AAGAUCUG AUUUCUAC 739 AATCTCAC GGCTAGCTACAACGA AGTGGCC 2440 3241 AAGAUCUG AUUUCUAC 740 GTAAGAAA GGCTAGCTACAACGA AGTGAATCT 2441 3247 AAGAUCUG AUUUCUAC 740 GTAAGAAA GGCTAGCTACAACGA AGAAAATC 2443 3257 UUCUACAG UUUUCACA 742 CTTGAAAA GGCTAGCTACAACGA AGAAAATC 2443 3257 UUCUACAG UUUUCAAG 742 CTTGAAAA GGCTAGCTACACAGA AGAAAATC 2444 3265 GUUUCAAG G'GCCAGAG 743 TCTGGCCA GGCTAGCTACAACGA TGTAAAAA 2444 3255 GUUUCAAGU G'CAGAAGGC 744 GCCTCTGG GGCTAGCTACAACGA CTCTATGA 2445 3259 UUCAAGUB G'CAGAGGC 745 ACTCCATG GGCTAGCTACAACGA CTCTTGA 2446 3262 GGCCAGGA G'UGCCAGA 745 ACTCCATG GGCTAGCTACAACGA CTCTTGA 2446 3262 GGCAAGGC UUCUCCAC 746 CTCGAAGGA GGCTAGCTACAACGA CTCTTGA 2447 3262 GGCAAGGC UUCUCCAC 748 CTCGAAGGA GGCTAGCTACAACGA CTCTTGA 2450 3300 UCCAGAAA G GUCAUUCA 749 TGAATGCA GGCTAGCTACAACGA CTCTTGA 2451 3302 CAGAAAGU G'CAUUCAU 750 GATGAAT GGCTAGCTACAACGA TCCTTGA 2451 3304 GAAAACG G'CAGCTACCAACGA TTCTCTGA CTCGAAGGA GGCTAGCTACAACGA CTCTTCTG 2453 3304 GAAAACG G'CAGCTAGC 752 GTCCCCA GGCTAGCTACAACGA GATTTCCC 2453	3185	UCUGAGUG A UGUUGAGG	729	CCTCAACA GGCTAGCTACAACGA CACTCAGA	2431
3219 GGAUUCUG A CGGUUUCU 732 AGAAACCG GGCTAGCTACAACGA CAGAATCC 2434 3212 UUCUGACG G UUUCUACA 733 TOTAGAAA GGCTAGCTACAACGA CGTCAGAA 2435 3218 CGGUUUCUA CAAGAGAGC 734 GCTCCTTG GGCTAGCTACAACGA AGAAACCG 2436 3225 UACAAGGA G CCCAUCAC 735 GTGATGGG GGCTAGCTACAACGA AGAAACCG 2437 3229 AGGAGCCC A UCACUAUG 736 CATAGTGA GGCTAGCTACAACGA GGCTCCT 2438 3222 AGCCCAUCA CUAUGGAA 737 TOTCCATAG GGCTAGCTACAACGA GATGGGCT 2439 3235 CCAUCACU A UGAGAAAU 738 ATCTTCCA GGCTAGCTACAACGA AGTGGGCT 2439 3242 UAUGGAAGA UCUGAUUU 739 AAATCAGA GGCTAGCTACAACGA AGTGGACT 2440 3244 AAGAUCUG A UUUCUUAC 740 GTAAAAA GGCTAGCTACAACGA CGATCTCT 2441 3254 GAUUUCUU CAGUUUU 741 GAAAACTG GGCTAGCTACAACGA CAGATCTT 2442 3255 GUUUCAA G UUUCUAAC 742 CTTGAAAA GGCTAGCTACAACGA CAGATCTT 2442 3265 GUUUCAA G UGGCCAGA 743 TCTGGCC GGCTAGCTACAACGA TGTAACAA 2444 3266 UUCAAGUG G CAGAAGGC 744 GCCTCTGG GGCTAGCTACAACGA TGTAACAA 2445 3275 GGCCAGAG G CAUGGAGU 745 ACTCCATG GGCTAGCTACAACGA CTTGGACC 2447 3282 GGCUAGGAG G UUCUCUCAC 746 GAACTCCA GGCTAGCTACAACGA CTCTGGCC 2447 3283 GAGUUCCU G UCUUCCAG 748 CTGCAGG GGCTAGCTACAACGA CTCTTGGCC 2447 3284 GAGUUCCU G UCUUCCAG 749 TGAAGAA GGCTAGCTACAACGA TTCTAGCC 2449 3300 UCCAGAAA G UGCAUCA 749 TGAAGAG GGCTAGCTACAACGA CCTCTTGG 2450 3304 GAAASUG C AUUCAUCGG 751 GACAGGAA GGCTAGCTACAACGA AGCATTTCTGG 2451 3304 GAAASUG C AUUCAUCGG 751 GACAGGAA GGCTAGCTACAACGA ACTTTCTCG 2452 3314 UCAUCGG A CAGCAGGA 754 CTCACCAG GGCTAGCTACAACGA ACTTTCTCG 2453 3314 UCAUCGG A CAGCAGAA 754 CTCACCAG GGCTAGCTACAACGA ACTTTCTCG 2453 3314 UCAUCGG A CAGCAGGA 752 GGCCAGG GGCTAGCTACAACGA ACTTTCTCG 2453 3314 UCAUCGG A CAGCAGGA 754 CTCACCAG GGCTAGCTACAACGA ACTTTCTCG 2453 3314 UCAUCGG A CAGCAGGA 754 CTCACCAG GGCTAGCTACAACGA ACTTTCTC 2453 3314 UCAUCGG A CAGCAGGA 754 CTCACCAG	3187	UGAGUGAU G UUGAGGAA	730	TTCCTCAA GGCTAGCTACAACGA ATCACTCA	2432
3212	3203	AGAGGAGG A UUCUGACG	731	CGTCAGAA GGCTAGCTACAACGA CCTCCTCT	2433
3218 CGGUUUCU A CAAGGAGC 734 GCTCCTTG GGCTACACACAACAA AGAAACCG 2436 3225 UACAAGGA G CCAUCAC 735 GTGATGGG GGCTACCACCAACCAA CCTTGTTA 2437 3229 AGGAGCCC A UCACUAUG 736 CATAGTGA GGCTACACACCA GGGTCACACCAACGA GGTGGCTACAACGA AGCCCAUC A UGAAGAA 737 TTCCATAG GGCTACACCAACGA GTTGGGT 2439 3232 AGCCCAUC A UGGAAGAU 738 ATCTTCCA GGCTACCACCAACGA AGTGGTG 2440 3242 UAUGGAAG A UCUGAUUU 739 AAATCAGA GGCTAGCTACAACGA CTCTCATCA 2441 3247 AAGAUUCUU A CAGUUUUC 741 GAAACTG GGCTAGCTACAACGA AGAAAATC 2442 3257 UUCUUCAA G UUUUCAAG 742 CTTGAACA GGCTAGCTACAACGA AGAAAATC 2443 3265 GUUUCAA G UGGCCAGA 743 TCTGGCA GGCTAGCTACAACGA CTTAAAACA 2445 3268 UUCAAGUG G CAUGGAGC 744 GCCTCGG GGCTACAACGA CTTAAAACA 2447 3277 CCAGAAGG C AUGGAGUC 744 GCCTCGG GGCTACCTACAACGA ACCTTGACCACA 2447 3282 GGCAUGGA G UCCUCCAG 743 CTGCAAGAAG GGCTACCTACAACGA ACCTTGCACACA 2446 3282 <	3209	GGAUUCUG A CGGUUUCU	732	AGAAACCG GGCTAGCTACAACGA CAGAATCC	2434
3225	3212	UUCUGACG G UUUCUACA	733	TGTAGAAA GGCTAGCTACAACGA CGTCAGAA	2435
3229 AGGAGCCC A UCACUAUG 736 CATAGTGA GGCTACTACAACGA GGGCTCCT 2438 3232 AGCCCAUC A CUAUGGAA 737 TTCCATAG GGCTAGCTACAACGA GATGGGCT 2449 3235 CCAUCACU A UGGAAGAU 738 ATCTCCA GGCTAGCTACAACGA AGTGATG 2440 3242 UAUGGAAG A UCUCUUAC 740 GTAAGAAA GGCTAGCTACAACGA CAGATCTT 2441 3247 AAGAUCUG A UUUCUUAC 740 GTAAGAAA GGCTAGCTACAACGA CAGATCTT 2442 3254 GUUUCUAC A GUUUCUCA 741 GAAAACTG GGCTACCAACGA AAGAATC 2443 3257 UUCUUACA G UUUUCAAG 742 CTTGAAAA GCTTACAACGA TATAAGA 2444 3265 GUUUUCAA G UGGAGGC 743 TCTGGCCA GGCTAGCTACAACGA CACTTGAC 2446 3265 GUUUUCAAG G CAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA CACTTGAC 2446 3275 GGCCAGGA G UGGAGUC 746 GAACTCCA GGCTACCTACAACGA CACTTGAC 2446 3288 GACAUGGA G UCUUCACA 747 GACAGGAA GCCACTCGA 2452 3300 UCCAGAAA G UCCAUCA 749 TGAATGCA GGCTAGCTACAACGA ACTTCTGGC 2451	3218	CGGUUUCU A CAAGGAGC	734	GCTCCTTG GGCTAGCTACAACGA AGAAACCG	2436
3232 AGCCCAUC A CUAUGGAA 737 TTCCATAG GGCTAGCTACAACGA GATGGGCT 2439 3235 CCAUCACU A UGGAACAU 738 ATCTTCCA GGCTAGCTACAACGA AGTGATGG 2440 3242 UAUGGAAG A UCUGAUUU 739 AAATCAGA GGCTAGCTACAACGA CTTCCATA 2441 3247 AAGAUCUG A UUUCUUAC 740 GTAAGAAA GGCTAGCTACAACGA CAGATCTT 2442 3257 UUCUUACA G UUUUCAAG 742 CTTGAAAA GGCTAGCTACAACGA AGAAAAC 2443 3257 UUCUUACA G UGGCCAGA 741 GAAAACTG GGCTAGCTACAACGA TGTAAGAC 2444 3265 GUUUCAA G UGGCCAGA 742 CTTGAAAA GGCTAGCACAGA TAGAAAC 2445 3268 UUCAGGG G CAGGAGA 743 TCTGGCCA GGCTAGCTACAACGA CACTTGAA 2446 3275 GGCCAGAG G CAUGGAGU 744 ACTCCATG GGCTAGCTACAACGA CACTTGAA 2447 3277 CCAGAGGA G UCCUGUC 744 GCCTGTG GGCTAGCTACAACGA CACTTGC 2448 3282 GGCAUGGA G UCCUUCCAG 748 CTGGAGAG GCCTACTACAACGA ACTTTCTC 2450 3300 UCCAGAAA G UGCAUUCA 749 TGAATGA GGCTACCAACGA ACTTTCTC 2452 <	3225	UACAAGGA G CCCAUCAC	735	GTGATGGG GGCTAGCTACAACGA TCCTTGTA	2437
3235 CCAUCACU A UGGAAGAU 738 ATCTTCCA GGCTAGCTACAACGA AGTGATGG 2440 3242 UAUGGAAG A UCUGALUU 739 AAATCAGA GGCTAGCTACAACGA CTTCCATA 2441 3247 AAGAUCUG A UUUCUUAC 740 GTAAGAAA GGCTAGCTACAACGA CAGATCT 2442 3254 GAUUUCUU A CAGUUUUC 741 GAAAACTG GGCTAGCTACAACGA AAGAAATC 2443 3257 UUCUUACA G UGGCCAGA 743 TCTGGACA GGCTACCAACGA TGAAACA 2444 3265 GUUUCAA G UGGCCAGA 743 TCTGGCCA GGCTACCTACAACGA TGAAACA 2445 3266 UUCAAGUG G CCAGAGC 744 GCCTGTG GGCTACCTACAACGA TCTGAACA 2446 3275 GGCCAGAG G CAUGGAGU 746 GACTCCA GGCTAGCTACAACGA CTCTGCC 2447 3277 CCAGAGGC A UGAGGUC 746 GACACCAA GGCTACCAACGA CTCTGC 2449 3282 GGCAUGAG G UCCUGUC 747 GACAGGAA GGCTACAACGA ACGACTCTC 2449 3300 UCCAGAAA G UGCAUCAC 749 TGAAAGGA GGCTACCAACGA ACTTCTC 2451 3301 GAAAGGC A UCCAUCGG 751 CCGATGAA GGCTACAACGA ACTTCTC 2453	3229	AGGAGCCC A UCACUAUG	736	CATAGTGA GGCTAGCTACAACGA GGGCTCCT	2438
3242 UAUGGAAG A UCUGAUUU 739 AAATCAGA GGCTAGCTACAACGA CTTCCATA 2441 3247 AAGAUCUG A UUUCUUAC 740 GTAAGAAA GGCTAGCTACAACGA CAGATCTT 2442 3254 GAUUUCUU A CAGUUUUC 741 GAAAACTG GGCTAGCTACAACGA AAGAAACC 2443 3257 UUCUUACA G UUUUCAAG 742 CTTGAAAA GGCTAGCTACAACGA TGTAAGAA 2444 3265 GUUUUCAA G UGGCCAGA 743 TCTGGCCA GGCTAGCTACAACGA TGTAAGAA 2445 3268 UUCAAGU G CAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA CACTGAGC 2447 3277 CCAGAGGC A UGGAGUU 746 GAACTCCA GGCTAGCTACAACGA CCTTGGC 2448 3288 GAGUUCCU G UCUCCAG 748 CTGGAAGA GGCTAGCTACAACGA TCCATGC 2449 3288 GAGUUCCU G UCUCCAG 748 CTGGAAGA GGCTAGCTACAACGA TCCATGC 2450 3300 UCCAGAAAG G UCUCAUCA 749 TGAAGAA GGCTAGCTACAACGA ACTTCTGG 2451 3301 GACAGAAC UCAUCAUCG 751 CGAGTAGCTACAACGA GACTTCCAACGA ACTTCTG 2452 3304 GAAAGAUC A UCGGGAC 751 CCGAGTAGCTACAACGA GACTT	3232	AGCCCAUC A CUAUGGAA	737	TTCCATAG GGCTAGCTACAACGA GATGGGCT	2439
3247 AAGAUCUG A UUUCUUAC 740 GTAAGANA GGCTAGCTACAACGA CAGATCTT 2442 3254 GAUUUCUU A CAGUUUUC 741 GAAAACTG GGCTAGCTACAACGA AAGAATC 2443 3257 UUCUUACA G UUUUCAAG 742 CTTGAAAA GGCTAGCTACAACGA TGTAAGAA 2444 3265 GUUUUCAA G UGGCCAGA 743 TCTGGGCA GGCTAGCTACAACGA CACTTGAA 2445 3268 UUCAAGUG G CAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA CACTTGAA 2446 3275 GGCCAGAG G CAGAGUU 746 ACTCCATG GGCTAGCTACAACGA CACTTGGC 2447 3277 CCAGAGGC A UGGAGUUC 746 GACAGGAA GGCTAGCTACAACGA CCTTCGC 2448 3282 GGCAUGGA G UUCCUGAC 748 CTGGAGAA GGCTAGCTACAACGA ACGA TCCATCGC 2449 3288 GAGUUCU G UCUUCAG 748 CTGGAGAA GGCTAGCTACAACGA ACTTTCTGC 2450 3300 UCCAGAAA G UCUUCUCA 750 GATGAATG AGCTACAACGA ACTTTCTGT 2452 3304 GAAAGUGC A UUCAUCGG 751 CCGAGAAA GACTTTCTGT 2453 3314 UCAUCAGG A CUGGCAGA 753 CTGCCAG GGCTAGCTACAACGA CAGTTCTCTGT 2453 <	3235	CCAUCACU A UGGAAGAU	738	ATCTTCCA GGCTAGCTACAACGA AGTGATGG	2440
3254 GAUUUCUU A CAGUUUUC 741 GAAAACTG GGCTAGCTACAACGA AAGAAATC 2443 3257 UUCUUACA G UUUUCAAG 742 CTTGAAAA GGCTAGCTACAACGA TGTAAGAA 2444 3265 GUUUCAA G UGGCCAGA 743 TCTGGCCA GGCTAGCTACAACGA TTGAAAAC 2445 3268 UUCAAGUG G CCAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA TCTTGACA ACATTGAA 3275 GGCCAGAG G CAUGAGU 745 ACTCCATG GGCTAGCTACAACGA CTCTGGC 2447 3277 CCAGAGGC A UGGAGUUC 746 GAACTCCA GGCTAGCTACAACGA CTCTGGC 2448 3288 GAGUUCCU G UCUUCCAC 748 CTGGAGAG GGCTAGCTACAACGA TCCTTGCC 2449 3300 UCCAGAAA G UGCAUUCA 749 TGAATGCA GGCTAGCTACAACGA TTCTTGGA 2451 3304 GAAGUGC A UUCAUCAC 750 GATGAATGCACACACA ACGATTCC 2453 3304 GAAGUGC A UUCAUCAG 751 GATGAATGCACACACA GACATTCC 2453 3304 GAAGUGC A UUCAUCAG 752 GGTCAGCTACAACAA GACATTCC 2453 3304 GAAGAGCA A CCUGGCAG 753 CTGCCAGG GGCTAGCTACAACAA GACATTCCAACAA ACACTTCCACAACAAAAAAAAAA	3242	UAUGGAAG A UCUGAUUU	739	AAATCAGA GGCTAGCTACAACGA CTTCCATA	2441
3257 UUCUUACA G UUUUCAAG 742 CTTGAAAA GGCTAGCTACAACGA TGTAAGAA 2444 3265 GUUUUCAA G UGGCAGA 743 TCTGGCCA GGCTAGCTACAACGA TTGAAAAA 2445 3268 UUCAAGUG G CCAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA CACTTGAA 2446 3275 GGCCAGAG G CAUGAGGU 745 ACTCCATG GGCTAGCTACAACGA CTCTGGAC 2447 3277 CCAGAGGC A UGCAGUUC 746 GAACTCCA GGCTAGCTACAACGA CTCTGGCC 2448 3282 GGCAUGAG G UUCCUGUC 747 GACAGGAA GGCTACCAACGA CCCTTGG 2448 3282 GGCAUGAG G UUCCUGUC 747 GACAGGAA GGCTAGCTACAACGA CCCTAGCA 2449 3288 GAGUUCCU G UCUUCCAG 748 CTGGAAGA GGCTAGCTACAACGA AGGAACTC 2450 3300 UCCAGAAAA G UGCAUUCA 749 TGAATGCA GGCTAGCTACAACGA ACTTTCTG 2451 3304 GAAAGUGC A UUCAUCAGG 751 CCGATGAA GGCTAGCTACAACGA ACTTTCTG 2452 3304 GAAAGUGC A UUCAUCAGG 751 CCGATGAA GGCTAGCTACAACGA ACTTTCTG 2452 3304 GAAAGUUC A UCGGGACC 752 GGTCCCGA GGCTAGCTACAACGA GAATGCAC 2454 3314 UCAUCAGG A CCUUGAGA 753 CTGCCAGG GGCTAGCTACAACGA GAATGCAC 2455 3319 GGGACUUC A UCGGGACC 752 GGTCCCGA GGCTAGCTACAACGA CCCGATGA 2455 3322 ACCUUGCA G CAGAGAAC 755 CTGCCAGG GGCTAGCTACAACGA CCCGATGA 2457 3329 AGCAGAAA C AUUCUUU 756 AAAGAATG GGCTAGCTACAACGA CCCGATGA 2457 3329 AGCAGAAA A CAUUCUUU 757 TAAAAGAA GGCTAGCTACAACGA GTTCTCCC 2456 3339 AUUCUUU A UCUGAGAA 758 TTCTCAGA GGCTAGCTACAACGA GTTCTCCC 2456 3347 AUCUGAGA A CAUCUUUU 757 TAAAAGAAA GGCTAGCTACAACGA GTTCTCCC 2456 3350 UGAGAAAC A CGUGUGAA 760 TCACCAC GGCTAGCTACAACGA TCTCACAC 2461 3350 UGAGAACA A CGUGUGAA 760 TCACCAC GGCTAGCTACAACGA TCTCACAC 2462 3368 GAAGAACA C UGGUGAA 761 TAAAACAA GGCTAGCTACAACGA CTTCACAC 2463 3351 UGAGAACA A CGUGUGAA 761 CTCACCAC GGCTAGCTACAACGA CTTCACAC 2465 3365 GAAGAAUU G UGAUUUG 762 AATCTTCA GGCTACCAACGA CTTCACAC 2466 3366 GAAGAUUU G UGAGAA 761 CTCACCAC GGCTAGCTACAACGA CACAAATCC 2466 3366 GAAGAUUU G UGAGAA 761 CTCACCAC GGCTAGCTACAACGA CACAAATCC 2466 3368 GAAGACAC C UGAGAGAU	3247	AAGAUCUG A UUUCUUAC	740	GTAAGAAA GGCTAGCTACAACGA CAGATCTT	2442
3265 GUUUUCAA G UGGCCAGA 743 TCTGGCCA GGCTACAACGA TTGAAAAC 2445 3268 UUCAAGUG G CAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA CACTTGAA 2446 3275 GGCCAGGG G CAUGAGU 746 ACTCCATG GGCTAGCTACAACGA CTCTGGC 2447 3277 CCAGAGGC A UGGAGUU 746 GAACTCCA GGCTAGCTACAACGA CCCTCTGC 2448 3282 GGCAUGGA G UUCUUCCAG 748 CTGGAAGA GGCTACCAACGA ACGA ACCACCA CACTACCACGA 2450 3300 UCCAGAAA G UGCAUUCA 749 TGAATGCA GGCTACCAACGA ACGA TTCTTGGA 2451 3301 UCCAGAAAG G UGCAUUCA 749 TGAATGCA GGCTACCAACGA ACTTTCT GAACGA 2451 3302 CAGAAAGU G CAUUCAUC 750 GATGAATG GGCTACCAACGA ACTTTCT GAACGA 2451 3304 GAAAGUGC A UUCAUCGG 751 CCGATGAC GGCTACCAACGA GCACTTTC 2453 3314 UCAUCGGG A CUGGGAG 753 CTGCCAG GGCTACCTACAACGA CCGATGA 2454 3319 GGGACCUG G CAGCGAGA 754 TCTCCCTG GGCTAGCTACAACGA CCGATGA 2455 3322 ACCUGGCA G CAGCAGAA 755 CTTCCTCG GGCTAGCTACAACGA TCTCCCC	3254	GAUUUCUU A CAGUUUUC	741	GAAAACTG GGCTAGCTACAACGA AAGAAATC	2443
3268 UUCAAGUG G CCAGAGGC 744 GCCTCTGG GGCTAGCTACAACGA CACTTGAA 2446 3275 GGCCAGAG G CAUGAGU 745 ACTCCATG GGCTAGCTACAACGA CTCTGGCC 2447 3277 CCAGAGG G LUGCAGUC 746 ACACTCCA GGCTAGCTACAACGA CTCTTGGC 2448 3282 GGCAUGAG G UUCCUGUC 747 GACAGGAA GGCTAGCTACAACGA TCCATGCC 2449 3288 GAGUUCCU G UCUUCCAG 748 CTGGAAGA GGCTAGCTACAACGA ACGAA ACTTCTG 2450 3300 UCCAGAAA G UGCAUUCAC 749 TGAATGCA GGCTACCAACGA ACTTCTG 2451 3304 GAAAGUC A UUCAUCGG 751 CCGATGAACGA GGCTACCAACGA ACTTCTG 2452 3304 GAAAGUC A UCAUCGG 752 GGTCCCGA GGCTACCAACGA ACTTCTC 2453 3314 UCAUCGG A CUGGCAG 752 GGTCCCGA GGCTACCAACGA CACGA CCCGATGA 2455 3319 GGGACCUG G CAGCAACA 754 TCTCCGCG GGCTACCTACAACGA CAGGTCCC 2456 3322 ACCUGGCA G CAGAAAC 755 GTTTCTCG GGCTACCTACACGA CAGGTCCC 2457 3329 AUCUUUU A UCUGAGAA 756 AAAGAACAC GCGCAGT TCTCCACGA GCTACCAACGA TCTCCACGT	3257	UUCUUACA G UUUUCAAG	742	CTTGAAAA GGCTAGCTACAACGA TGTAAGAA	2444
3275 GGCCAGAG G CAUGGAGU 745 ACTCCATG GGCTAGCTACAACGA CTCTGGCC 2447 3277 CCAGAGGC A UGGAGUUC 746 GAACTCCA GGCTAGCTACAACGA GCCTCTGG 2448 3282 GGCAUGGA G UUCCUGUC 747 GACAGGAA GGCTAGCTACAACGA TCCATGCC 2449 3288 GAGUUCCU G UCUCCAG 748 CTGGAAGA GGCTAGCTACAACGA AGGAACTC 2450 3300 UCCAGAAAGU G CAUUCA 749 TGAATGCA GGCTAGCTACAACGA ATTCTTGGA 2451 3304 GAAAGUGC A UUCAUCGG 751 CGGATGAGTACAACGA GCACTTCC 2453 3304 GAAAGUGC A UUCAUCGG 751 CGGATGAGTACAACGA GCAATCCAC 2454 3304 GAAAGUGC A UUCAUCGG 751 CGGATGGTACAACGA GCAATCACACGA CACGATCACACGA 2454 3314 UCAUCGGG A CUGGCAG 753 CTGCCGAG GGCTAGCTACAACGA CAGGTCCC 2456 3322 ACCUGCA G CAGAAAC 755 GTTTCTCG GGCTACAACGA CAGGTCCC 2456 3322 ACCUGCA G CAGAAAC 755 GTTTCTCG GGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAA AUUCUUU A T56 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458	3265	GUUUUCAA G UGGCCAGA	743	TCTGGCCA GGCTAGCTACAACGA TTGAAAAC	2445
3277 CCAGAGGC A UGGAGUUC 746 GAACTCCA GGCTAGCACAACGA GCCTCTGG 2448 3282 GGCAUGGA G UUCCUGUC 747 GACAGGAA GGCTAGCACACGA TCCAIGCC 2449 3288 GAGUUCCU G UCUUCCAG 748 CTGGAAGA GGCTAGCTACAACGA TCCAIGCC 2450 3300 UCCAGAAA G UGCAUUCA 749 TGAATGCA GGCTAGCTACAACGA TTTCTGGA 2451 3302 CAGAAAGU G CAUUCAUC 750 GATGAAG GGCTAGCTACAACGA ACTTCTC 2452 3304 GAAAGUGC A UUCAUCGG 751 CCGATGAA GGCTAGCTACAACGA ACTTCTC 2453 3308 GUGCAUUC A UCGGGACC 752 GGTCCGGA GGCTAGCTACAACGA GAATCCAC 2454 3314 UCAUCGG A CUGGCAGA 753 CTCCGGA GGCTAGCTACAACGA CAGGTCC 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CAGGTCC 2456 3322 ACCUGGCA G CAGAGAAC 755 GTTTCTCG GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUU A T56 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUA T57 TAAAAGAA GGCTAGCTACAACGA TTCTCGCT 2459 334	3268	UUCAAGUG G CCAGAGGC	744	GCCTCTGG GGCTAGCTACAACGA CACTTGAA	2446
3282 GGCAUGGA G UUCCUGUC 747 GACAGGAA GGCTAGCTACAACGA TCCATGCC 2449 3288 GAGUUCCU G UCUUCCAG 748 CTGGAAGA GGCTAGCTACAACGA AGGAACTC 2450 3300 UCCAGAAA G UGCAUUCA 749 TGAATGCA GGCTAGCTACAACGA AGGAACTC 2450 3302 CAGAAAGU G CAUUCAUC 750 GATGAATG GGCTAGCTACAACGA ACTTCTCT 2451 3304 GAAAGUGC A UUCAUCGG 751 CCGATGAA GGCTAGCTACAACGA GAATGCAC 2453 3308 GUGCAUUC A UCGGGAC 752 GGTCCCGA GGCTAGCTACAACGA GAATGCAC 2454 3314 UCAUCGGG A CUGGCAG 753 CTGCCAGG GGCTAGCTACAACGA CCCGATGA 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA TCCCAGCT 2456 3322 ACCUGGCA G CAGAAAC 755 GTTTCTCG GGCTAGCTACAACGA TCTCCCCT 2458 3331 CGAGAAAC A UUCUUU 756 AAAGAATG GGCTAGCTACAACGA TCTCCCCT 2458 3331 CGAGAAAC A UUCUUUA 757 TAAAACAAA GGCTAGCTACAACGA TCTCCCCT 2458 3331 CGAGAAAC A CAUCUUUA 757 TAAAACAAACAA CACGA TCTCACACGA TCTCACACGA TCTCACACGA TCTC	3275	GGCCAGAG G CAUGGAGU	745	ACTCCATG GGCTAGCTACAACGA CTCTGGCC	2447
3288 GAGUUCCU G UCUUCCAG 748 CTGGAAGA G GCTAGCTACAACGA AGGAACTC 2450 3300 UCCAGAAA G UGCAUUCA 749 TGAATGCA GGCTAGCTACAACGA TTTCTGGA 2451 3302 CAGAAAGU G CAUUCAUC 750 GATGAATG GGCTAGCTACAACGA ACTTTCT 2452 3304 GAAAGUGC A UUCAUCG 751 CCGATGAA GGCTAGCTACAACGA GAATGCAC 2453 3308 GUGCAUUC A UCGGGACC 752 GGTCCCGA GGCTAGCTACAACGA GAATGCAC 2454 3314 UCAUCGGG A CUGGCAG 753 CTGCCAG GGCTAGCTACAACGA CCGATGAC 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CAGGTCC 2456 3322 ACCUGGCA G CGAGAAC 755 GTTTCTCG GGCTAGCTACAACGA TGCCAGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGACAAAC A UUCUUUA 757 TAAAAGAA GCTAGCTACAACGA ATTCTCGCT 2458 3331 CGACAAACA A CAUCUUU 757 TAAAAGAA GCTAGCTACAACGA TTCTCAGA 2461 3347 AUCUGAGA A CACCGG 759 CCACGTTG GGCTAGCTACAACGA TCCAGAT 2461	3277	CCAGAGGC A UGGAGUUC	746	GAACTCCA GGCTAGCTACAACGA GCCTCTGG	2448
3300 UCCAGAAA G UGCAUUCA 749 TGAATGCA GGCTAGCTACAACGA TTTCTGGA 2451 3302 CAGAAAGU G CAUUCAUC 750 GATGAATG GGCTAGCTACAACGA ACTTTCTG 2452 3304 GAAAGUG A UUCAUCGG 751 CCGATGAA GGCTAGCTACAACGA GCACTTTC 2453 3308 GUGCAUUC A UCGGGACC 752 GGTCCCGA GGCTAGCTACAACGA GAATGCAC 2454 3314 UCAUCGGG A CCUGGCAG 753 CTGCCAGG GGCTAGCTACAACGA CCCGATGA 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGGCTG GGCTACCAACGA CCGATGA 2456 3322 ACCUGGCA G CGAGAAAC 755 GTTTCTCG GGCTACCAACGA TGCCAGGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUU 756 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458 3339 AUUCUUU A UCUGAGAA 758 TTCTCAGA GGCTAGCTACAACGA TTCTCAGT 2461 3347 AUCUGAGA A CAGGUGG 759 CCACGTTG GGCTAGCTACAACGA TTCTCAGAT 2461 3350 UGAGAACA A CGUGGUGA 760 TCACCACG GGCTAGCTACAACGA TGTTCTCA 2462 3351 AGAACAAC G UGGUGAA 761 CTTCACCA GGCTAGCTACAACGA TGTTCTCA 2461 3352 AGAACAAC G UGGUGAA 760 TCACCACG GGCTAGCTACAACGA CACGTTCTCACA 3361 UGGUGAGA A UUUGUGA 763 ATCACAA	3282	GGCAUGGA G UUCCUGUC	747	GACAGGAA GGCTAGCTACAACGA TCCATGCC	2449
3302 CAGAAAGU G CAUUCAUC 750 GATGAATG GGCTAGCTACAACGA ACTTTCTG 2452 3304 GAAAGUGC A UUCAUCGG 751 CCGATGAA GGCTAGCTACAACGA GCACTTTC 2453 3308 GUGCAUUC A UCGGGAC 752 GGTCCCGA GGCTACAACGA GAATGCAC 2454 3314 UCAUCAGG A CCUGGCAG 753 CTGCCAGG GGCTAGCTACAACGA CCGGATCA 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CAGGTCCC 2456 3322 ACCUGGCA G CGAGAAAC 755 GTTTCTCG GGCTAGCTACAACGA TGCCAGGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAAT GGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUU 757 TAAAAGAA GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGAGGAAAC A UUCUUUUA 757 TAAAAGAA GGCTAGCTACAACGA TTCTCGCT 2459 3339 AUUCUUUU A UCUGAGAA 758 TTCTCAGA GGCTAGCTACAACGA TTCCAACGA TTCCACACGA TTCCACACGA TCCACACGA ACCACGATACACGA TCCACACGA ACCACGATACACGA TCCACACGA ACCACGATACACACGA TCCACACGA ACCACGATACACACGA TCCACACGA GACCACACACACACACACACACACACACACA	3288	GAGUUCCU G UCUUCCAG	748	CTGGAAGA GGCTAGCTACAACGA AGGAACTC	2450
3304 GAAAGUGC A UUCAUCGG 751 CCGATGAA GGCTAGCTACAACGA GCACTTTC 2453 3308 GUGCAUUC A UCGGGACC 752 GGTCCCGA GGCTAGCTACAACGA GAATGCAC 2454 3314 UCAUCGGG A CCUGGCAG 753 CTGCCAGG GGCTAGCTACAACGA GAATGCAC 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CCGGATGA 2455 3329 ACCUGGCA G CGAGAAAC 755 GTTTCTCG GGCTAGCTACAACGA TGCCAGGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAATG GGCTAGCTACAACGA TCTCTCGCT 2458 3331 CGAGAAAC A UUCUUUU 757 TAAAAGAA GGCTAGCTAACAACGA TTCTCGCT 2458 3339 AUUCUUUU A UCUGAGAA 758 TTCTCAGA GGCTAGCTAACAACGA TTTCTCGC 2458 3337 AUCUGAGA A CAACGUGG 759 CCACGTTG GGCTAGCTACAACGA TTTCTCGAAT 2461 3350 UGAGAACA A CGUGGUGA 760 TCACCACG GGCTAGCTACAACGA TCTCAGAT 2461 3351 AGAACAAC G UGGUGAAG 761 CTTCACCA GGCTAGCTACAACGA TGTTCTCA 2462 3352 AGAACAAC G UGGUGAAG 761 CTTCACCA GGCTAGCTACAACGA TGTTCTC 2463 3355 ACAACGUG G UGAAGAUU 762 AATCTTCA GGCTAGCTACAACGA TGTTCTC 2463 3361 UGGUGAAG A UUUGUGAU 763 ATCACAAA GGCTAGCTACAACGA TGTTCTC 2466 3365 GAAGAUUU G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA CACGTTGT 2466 3368 GAUUUUUG A UUUUGGCC 765 GGCCAAAA GGCTAGCTACAACGA AAATCTC 2466 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA CACAAATC 2467 3374 UGAUUUUG G CCUUGCCC 766 GGGCAAAA GGCTAGCTACAACGA CACAAATC 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA CACAAATC 2467 3386 UGCCCGGG A UAUUUAUAA 768 TATAAATA GGCTAGCTACAACGA CACAAATC 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA CACAAATC 2467 3388 CCCGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA AAACCA 2469 3389 UUAGAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA AAACCA 2470 3388 CCCGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA AAACCA 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA ATCCCA 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGG GGCTAGCTACAACGA ATCCCA 2472 3404 GAACCCC A UUAUGGAA 772 TCACATAA GGCTAGCTACAACGA AATCCC 2472 3407 CCCCGGUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCCC 2472 3409 CCGAUUAU G UGAGAAAA 774 TTTCTCAC GGCTAGCTACAACGA ATCCCTTTTA 2477	3300	UCCAGAAA G UGCAUUCA	749	TGAATGCA GGCTAGCTACAACGA TTTCTGGA	2451
3308 GUGCAUUC A UCGGGACC 752 GGTCCCGA GGCTAGCTACAACGA GAATGCAC 2454 3314 UCAUCGGG A CCUGGCAG 753 CTGCCAGG GGCTAGCTACAACGA CCCGATGA 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CAGGTCCC 2456 3322 ACCUGGCA G CAGAAAC 755 GTTTCTCG GGCTAGCACACGA TGCCAGGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAAT GGCTACCACACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUA 757 TAAAAGAA GGCTAGCTACAACGA GTTTCTCG 2459 3339 AUUCUUUU A UCUGAGAA 758 TTCTCAGA GGCTAGCTACAACGA AAAAGAAT 2460 3347 AUCUGAGA A CACGUGG 759 CCACGTTG GGCTAGCTACAACGA TCTCCAGT 2461 3350 UGAGAACA C G UGGUGAA 760 TCACCAC GGCTAGCTACAACGA TGTTCTCA 2462 3351 AGAACAAC G UGGUGAA 761 CTTCACCA GGCTAGCTACAACGA CTTCTCA 2463 3352 AGAACACAC G UGGUGAAG 761 CTTCACCA GGCTAGCTACAACGA CACGTTCT 2464 3361 UGGUGAGA A UUGUGAU 763 ATCACAAA GGCTACCAACGA CACCAAATCC	3302	CAGAAAGU G CAUUCAUC	750	GATGAATG GGCTAGCTACAACGA ACTTTCTG	2452
3314 UCAUCGGG A CCUGGCAG 753 CTGCCAGG GGCTAGCTACAACGA CCCGATGA 2455 3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CAGGTCCC 2456 3322 ACCUGGCA G CGAGAAAC 755 GTTTCTCG GGCTAGCTACAACGA TGCCAGGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUUA 757 TAAAAGAA GGCTAGCTACAACGA GTTTCTCG 2459 3339 AUUCUUUU A UCUGAGAA 758 TTCTCAGA GGCTAGCTACAACGA AAAGAAT 2460 3347 AUCUGAGA A CAACGUGG 759 CCACGTTG GGCTAGCTACAACGA TCTCAGAT 2461 3350 UGAGAACA A CGUGGUGA 760 TCACCACG GGCTAGCTACAACGA TGTTCTCA 2462 3352 AGAACAAC G UGGUGAAG 761 CTTCACCA GGCTAGCTACAACGA TGTTCTC 2463 3355 ACAACGUG G UGAAGAUU 762 AATCTTCA GGCTAGCTACAACGA CTTCACCA 2465 3361 UGGUGAAG A UUUGUGAU 763 ATCACAAA GGCTAGCTACAACGA CTTCACCA 2465 3365 GAAGAUUU G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA AAATCTTC 2466 3368 GAUUUUUG G CCUUGCCC 766 GGGCAAGA GGCTAGCTACAACGA CACAAATC 2467 3374 UGAUUUUG G CCUUGCCC 766 GGGCAAGG GGCTAGCTACAACGA CAAATCA 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA CACAAATC 2467 3388 CCCGGGAU A UUUUUAAG 769 CTTATAAA GGCTAGCTACAACGA CACGACCA 2469 3386 UGCCCGGG A UAUUUAAAG 769 CTTATAAA GGCTAGCTACAACGA AACTCCCGGG 2470 3388 CCCGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA AACTCCCGGG 2470 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA AAATCC 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA AAATCC 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA AAATCA 2473 3404 GAACCCCG A UUAUGUGA 772 TCACATAA GGCTAGCTACAACGA AAATCAC 2472 3407 CCCCGAUUA UGUGAGAAA 773 TTCTCACA GGCTAGCTACAACGA AAATCACGA CACGACGA CACAAATCC 2472 3409 CCGAUUUU G UGAGAAAA 774 TTTCTCAC GGCTAGCTACAACGA AATCCGGG 2475 3409 CCGAUUUU G UGAGAAAA 774 TTTCTCAC GGCTAGCTACAACGA CTCCTTTT 2477	3304	GAAAGUGC A UUCAUCGG	751	CCGATGAA GGCTAGCTACAACGA GCACTTTC	2453
3319 GGGACCUG G CAGCGAGA 754 TCTCGCTG GGCTAGCTACAACGA CAGGTCCC 2456 3322 ACCUGGCA G CGAGAAAC 755 GTTTCTCG GGCTAGCTACAACGA TGCCAGGT 2457 3329 AGCGAGAA A CAUUCUUU 756 AAAGAATG GGCTAGCTACAACGA TTCTCGCT 2458 3331 CGAGAAAC A UUCUUUUA 757 TAAAAGAA GGCTAGCTACAACGA AAAAGAAT 2460 3347 AUCUGAGAA 758 TTCTCAGA GGCTACAACGA AAAAGAAT 2461 3350 UGAGAACA A CGUGGUGA 760 TCACCACG GGCTAGCTACAACGA TCTCAGAT 2462 3352 AGAACAAC G UGGUGAAG 761 CTTCACCA GGCTACAACGA GTTGTTCT 2463 3355 ACAACGUG G UGAAGAUU 762 AATCTTCA GGCTAGCTACAACGA CACGTTGT 2464 3361 UGGUGAAG A UUUUGGAU 763 ATCACAAA GGCTAGCTACAACGA CTTCACCA 2465 3368 GAUUUUG G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA CACAATCT 2466 3374 UGAUUUUG G CCUGCCC 766 GGGCAAAA GGCTAGCTACAACGA CAAAATCA 2467 3374 UGAUUUUG G CCUGGGAU 767 ATCCCGGG GGCTAGCTACAACGA CAAAATCA 2468	3308	GUGCAUUC A UCGGGACC	752	GGTCCCGA GGCTAGCTACAACGA GAATGCAC	2454
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3350 UGAGAACA A CGUGGUGA 760 TCACCACG GGCTAGCTACAACGA TGTTCTCA 2462 3352 AGAACAAC G UGGUGAAG 761 CTTCACCA GGCTAGCTACAACGA GTTGTTCT 2463 3355 ACAACGUG G UGAAGAUU 762 AATCTTCA GGCTAGCTACAACGA CACGTTGT 2464 3361 UGGUGAAG A UUUGUGAU 763 ATCACAAA GGCTAGCTACAACGA CTTCACCA 2465 3365 GAAGAUUU G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA AAATCTTC 2466 3368 GAUUUGUG A UUUUGGCC 765 GGCCAAAA GGCTAGCTACAACGA CACAAATC 2467 3374 UGAUUUUG G CCUUGCCC 766 GGGCAAGG GGCTAGCTACAACGA CACAAATC 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA AAGGCCAA 2469 3386 UGCCCGGG A UAUUUAUA 768 TATAAATA GGCTAGCTACAACGA ACCGGCCA 2470 3388 CCCGGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA ACCCGGGC 2471 3392 GGAUAUUU A UAAGAACC 770 GGTTCTTA GGCTAGCTACAACGA AAATATCC 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA TCTTATAA 2473 3404 GAACCCCG A UAUUGUGA 772 TCACATAA GGCTAGCTACAACGA CGGGGTTC 2474 3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCGC 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3339	AUUCUUUU A UCUGAGAA	758	TTCTCAGA GGCTAGCTACAACGA AAAAGAAT	2460
AGAACAAC G UGGUGAAG 761 CTTCACCA GGCTAGCTACAACGA GTTGTTCT 2463 3355 ACAACGUG G UGAAGAUU 762 AATCTTCA GGCTAGCTACAACGA CACGTTGT 2464 3361 UGGUGAAG A UUUGUGAU 763 ATCACAAA GGCTAGCTACAACGA CTTCACCA 2465 3365 GAAGAUUU G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA AAATCTTC 2466 3368 GAUUUGUG A UUUUGGCC 765 GGCCAAAA GGCTAGCTACAACGA CACAAATC 2467 3374 UGAUUUUG G CCUUGCCC 766 GGGCAAGA GGCTAGCTACAACGA CACAAATCA 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA CACAAATCA 2469 3386 UGCCCGGG A UAUUUAUA 768 TATAAATA GGCTAGCTACAACGA CCCGGGCA 2470 3388 CCCGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA AACTCCCGGG 2471 3392 GGAUAUUU A UAAGAACC 770 GGTTCTTA GGCTAGCTACAACGA AAATATCC 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA TCTTATAA 2473 3404 GAACCCCG A UUAUGUGA 772 TCACATAA GGCTAGCTACAACGA CGGGGTTC 2474 3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCGG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3347	AUCUGAGA A CAACGUGG	759	CCACGTTG GGCTAGCTACAACGA TCTCAGAT	2461
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3361 UGGUGAAG A UUUGUGAU 763 ATCACAAA GGCTAGCTACAACGA CTTCACCA 2465 3365 GAAGAUUU G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA AAATCTTC 2466 3368 GAUUUGUG A UUUUGGCC 765 GGCCAAAA GGCTAGCTACAACGA CACAAATC 2467 3374 UGAUUUUG G CCUUGCCC 766 GGGCAAGG GGCTAGCTACAACGA CAAAATCA 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA AAGGCCAA 2469 3386 UGCCCGGG A UAUUUAUA 768 TATAAATA GGCTAGCTACAACGA CCCGGGCA 2470 3388 CCCGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA ATCCCGGG 2471 3392 GGAUAUUU A UAAGAACC 770 GGTTCTTA GGCTAGCTACAACGA AAATATCC 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA TCTTATAA 2473 3404 GAACCCCG A UUAUGUGA 772 TCACATAA GGCTAGCTACAACGA CGGGGTTC 2474 3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3352	AGAACAAC G UGGUGAAG	761	CTTCACCA GGCTAGCTACAACGA GTTGTTCT	2463
3365 GAAGAUUU G UGAUUUUG 764 CAAAATCA GGCTAGCTACAACGA AAATCTTC 2466 3368 GAUUUGUG A UUUUGGCC 765 GGCCAAAA GGCTAGCTACAACGA CACAAATC 2467 3374 UGAUUUUG G CCUUGCCC 766 GGGCAAGG GGCTAGCTACAACGA CAAAATCA 2468 3379 UUGGCCUU G CCCGGGAU 767 ATCCCGGG GGCTAGCTACAACGA AAGGCCAA 2469 3386 UGCCCGGG A UAUUUAUA 768 TATAAATA GGCTAGCTACAACGA CCCGGGCA 2470 3388 CCCGGGAU A UUUAUAAG 769 CTTATAAA GGCTAGCTACAACGA ATCCCGGG 2471 3392 GGAUAUUU A UAAGAACC 770 GGTTCTTA GGCTAGCTACAACGA AAATATCC 2472 3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA TCTTATAA 2473 3404 GAACCCCG A UUAUGUGA 772 TCACATAA GGCTAGCTACAACGA CGGGGTTC 2474 3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3355	ACAACGUG G UGAAGAUU	762	AATCTTCA GGCTAGCTACAACGA CACGTTGT	2464
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3398 UUAUAAGA A CCCCGAUU 771 AATCGGGG GGCTAGCTACAACGA TCTTATAA 2473 3404 GAACCCG A UUAUGUGA 772 TCACATAA GGCTAGCTACAACGA CGGGGTTC 2474 3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCGG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3388	CCCGGGAU A UUUAUAAG	769	CTTATAAA GGCTAGCTACAACGA ATCCCGGG	2471
3404 GAACCCCG A UUAUGUGA 772 TCACATAA GGCTAGCTACAACGA CGGGGTTC 2474 3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCGG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3392	GGAUAUUU A UAAGAACC	770	GGTTCTTA GGCTAGCTACAACGA AAATATCC	2472
3407 CCCCGAUU A UGUGAGAA 773 TTCTCACA GGCTAGCTACAACGA AATCGGGG 2475 3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCGG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3398	UUAUAAGA A CCCCGAUU	771	AATCGGGG GGCTAGCTACAACGA TCTTATAA	2473
3409 CCGAUUAU G UGAGAAAA 774 TTTTCTCA GGCTAGCTACAACGA ATAATCGG 2476 3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3404	GAACCCCG A UUAUGUGA	772	TCACATAA GGCTAGCTACAACGA CGGGGTTC	2474
3422 AAAAGGAG A UACUCGAC 775 GTCGAGTA GGCTAGCTACAACGA CTCCTTTT 2477	3407	CCCCGAUU A UGUGAGAA	773	TTCTCACA GGCTAGCTACAACGA AATCGGGG	2475
	3409	CCGAUUAU G UGAGAAAA	774	TTTTCTCA GGCTAGCTACAACGA ATAATCGG	2476
3424 AAGGAGAU A CUCGACUU 776 AAGTCGAG GGCTAGCTACAACGA ATCTCCTT 2478	3422	AAAAGGAG A UACUCGAC	775	GTCGAGTA GGCTAGCTACAACGA CTCCTTTT	2477
	3424	AAGGAGAU A CUCGACUU	776	AAGTCGAG GGCTAGCTACAACGA ATCTCCTT	2478

3429	GAUACUCG A CUUCCUCU	777	AGAGGAAG GGCTAGCTACAACGA CGAGTATC	
3441	CCUCUGAA A UGGAUGGC	778	GCCATCCA GGCTAGCTACAACGA TTCAGAGG	2480
3445	UGAAAUGG A UGGCUCCC	779	GGGAGCCA GGCTAGCTACAACGA CCATTTCA	2481
3448	AAUGGAUG G CUCCCGAA	780	TTCGGGAG GGCTAGCTACAACGA CATCCATT	2482
3456	GCUCCCGA A UCUAUCUU	781	AAGATAGA GGCTAGCTACAACGA TCGGGAGC	2483
3460	CCGAAUCU A UCUUUGAC	782	GTCAAAGA GGCTAGCTACAACGA AGATTCGG	2484
3467	UAUCUUUG A CAAAAUCU	783	AGATTTTG GGCTAGCTACAACGA CAAAGATA	2485
3472	UUGACAAA A UCUACAGC	784	GCTGTAGA GGCTAGCTACAACGA TTTGTCAA	2486
3476	CAAAAUCU A CAGCACCA	785	TGGTGCTG GGCTAGCTACAACGA AGATTTTG	2487
3479	AAUCUACA G CACCAAGA	786	TCTTGGTG GGCTAGCTACAACGA TGTAGATT	2488
3481	UCUACAGC A CCAAGAGC	787	GCTCTTGG GGCTAGCTACAACGA GCTGTAGA	2489
3488	CACCAAGA G CGACGUGU	788	ACACGTCG GGCTAGCTACAACGA TCTTGGTG	2490
3491	CAAGAGCG A CGUGUGGU	789	ACCACACG GGCTAGCTACAACGA CGCTCTTG	2491
3493	AGAGCGAC G UGUGGUCU	790	AGACCACA GGCTAGCTACAACGA GTCGCTCT	2492
3495	AGCGACGU G UGGUCUUA	791	TAAGACCA GGCTAGCTACAACGA ACGTCGCT	2493
3498	GACGUGUG G UCUUACGG	792	CCGTAAGA GGCTAGCTACAACGA CACACGTC	2494
3503	GUGGUCUU A CGGAGUAU	793	ATACTCCG GGCTAGCTACAACGA AAGACCAC	2495
3508	CUUACGGA G UAUUGCUG	794	CAGCAATA GGCTAGCTACAACGA TCCGTAAG	
3510	UACGGAGU A UUGCUGUG	795	CACAGCAA GGCTAGCTACAACGA ACTCCGTA	2497
3513	GGAGUAUU G CUGUGGGA	796	TCCCACAG GGCTAGCTACAACGA AATACTCC	2498
3516	GUAUUGCU G UGGGAAAU	797	ATTTCCCA GGCTAGCTACAACGA AGCAATAC	2499
3523	UGUGGGAA A UCUUCUCC	798	GGAGAAGA GGCTAGCTACAACGA TTCCCACA	
3536	CUCCUUAG G UGGGUCUC	799	GAGACCCA GGCTAGCTACAACGA CTAAGGAG	
3540	UUAGGUGG G UCUCCAUA	800	TATGGAGA GGCTAGCTACAACGA CCACCTAA	2502
3546	GGGUCUCC A UACCCAGG	801	CCTGGGTA GGCTACCTACAACGA GGAGACCC	2503
3548	GUCUCCAU A CCCAGGAG	802	CTCCTGGG GGCTAGCTACAACGA ATGGAGAC	2504
3556	ACCAGGA G UACAAAUG	803	CATTIGTA GGCTAGCTACAACGA TCCTGGGT	
3558	CCAGGAGU A CAAAUGGA	804	TCCATTTG GGCTAGCTACAACGA ACTCCTGG	
3562	GAGUACAA A UGGAUGAG	805	CTCATCCA GGCTAGCTACAACGA TTGTACTC	2507
3566	ACAAAUGG A UGAGGACU	806	AGTCCTCA GGCTAGCTACAACGA CCATTTGT	
3572	GGAUGAGG A CUUUUGCA	807	TGCAAAAG GGCTAGCTACAACGA CCTCATCC	
3578	GGACUUUU G CAGUCGCC	808	GGCGACTG GGCTAGCTACAACGA AAAAGTCC	
3581	CUUUUGCA G UCGCCUGA	809	TCAGGCGA GGCTAGCTACAACGA TGCAAAAG	
3584	UUGCAGUC G CCUGAGGG	810	CCCTCAGG GGCTAGCTACAACGA GACTGCAA	
3596	GAGGGAAG G CAUGAGGA	811	TCCTCATG GGCTAGCTACAACGA CTTCCCTC	
3598	GGGAAGGC A UGAGGAUG	812	CATCCTCA GGCTAGCTACAACGA GCCTTCCC	
3604	GCAUGAGG A UGAGAGCU	813	AGCTCTCA GGCTAGCTACAACGA CCTCATGC	
3610	GGAUGAGA G CUCCUGAG	814		
3618	GCUCCUGA G UACUCUAC		CTCAGGAG GGCTAGCTACAACGA TCTCATCC GTAGAGTA GGCTAGCTACAACGA TCAGGAGC	
3620	UCCUGAGU A CUCUACUC	815 816		
3625	AGUACUCU A CUCCUGAA	817	GAGTAGAG GGCTAGCTACAACGA ACTCAGGA	
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3634	,,_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	818	CTGATAGA GGCTAGCTACAACGA TCAGGAG	
	UGAAAUCU A UCAGAUCA	819	TGATCTGA GGCTAGCTAGAACGA AGATTTCA	2521
3643	UCUAUCAG A UCAUGCUG	820	CAGCATGA GGCTACCTACAACGA CATGATGAT	2522
	AUCAGAUC A UGCUGGAC	821	GTCCAGCA GGCTAGCTACAACGA GATCTGAT	2523
3648	CAGAUCAU G CUGGACUG	822	CAGTCCAG GGCTAGCTACAACGA ATGATCTG	
3653	CAUGCUGG A CUGCUGGC	823	GCCAGCAG GGCTAGCTACAACGA CCAGCATG	
3656	GCUGGACU G CUGGCACA	824	TGTGCCAG GGCTAGCTACAACGA AGTCCAGC	2526
3660	GACUGCUG G CACAGAGA	825	TCTCTGTG GGCTAGCTACAACGA CAGCAGTC	2527
3662	CUGCUGGC A CAGAGACC	826	GGTCTCTG GGCTAGCTACAACGA GCCAGCAG	2528
3668	GCACAGAG A CCCAAAAG	827	CTTTTGGG GGCTAGCTACAACGA CTCTGTGC	2529
3681	AAAGAAAG G CCAAGAUU	828	AATCTTGG GGCTAGCTACAACGA CTTTCTTT	2530

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37696	3687	AGGCCAAG A UUUGCAGA	829	TCTGCAAA GGCTAGCTACAACGA CTTGGCCT	2531
3700					
3708 GUGGANAR A CUASGUGA 833 TEACCTAG GCTAGCTACAACGA TITTCCAC 2535 3711 AARACUAG G UGAUTUGC 834 GCARATCA GGCTAGCTACACGA CTAGTTIT 2536 3712 CUCAGGUGA UUUGCUUC 835 GARCARA GGCTAGCTACACGA CACCTAGT 2537 3720 GGUGAUTU G CUUCAAG 836 GCTTGAAG GGCTAGCTACACGA AAATCACC 2538 3727 UGCUUCAA G CAAAUGUA 837 TACATTTG GGCTAGCTACAACGA TTGATACAC 2538 3731 UCAAGCAA A UGUACAAC 838 GTTGTACA GGCTAGCTACAACGA TTGATACAC 2538 3733 AAGCAAAU G UACAACAG 839 CTGTTGAC GGCTAGCTACAACGA TTGCTTGA 2540 3733 AAGCAAAU G UACAACAG 839 CTGTTGAC GGCTAGCTACAACGA TTGCTTCA 2541 3738 AAUGUACA A CAGGAUG 841 CCATCCTG GGCTAGCTACAACGA TTGCTTCA 2542 3738 AAUGUACA A CAGGAUG 841 CCATCCTG GGCTAGCTACACAGA ACATTTGCT 2543 3744 ACAGCAGAG UGGUAAAG 842 CTTTACCA GGCTAGCTACACGA CCTTTGT 2543 3744 ACAGCAGAG AUGUCCAA 843 AGTTTTA GGCTAGCTACAACGA CTTTTGCT 2545 3755 UAAAGACUA AUCCCAAA 845 TTGGGTAG GGCTAGCTACACAG CTTCTTT 2547 3757 AAGCAUAC AUCCCAAA 846 GATTGGG GGCTAGCTACAACGA CTTTTACCA 2546 3755 UAAAGACUA AUCCCAAAC 846 GATTGGG GGCTAGCTACAACGA CTTTTACCA 2546 3767 CCCAAUCA AUCCAAUC 847 GGCATTGA GGCTAGCTACAACGA CTTTTACCA 2546 3767 CCCAAUCA AUCCAAUC 848 GUATGGG GGCTAGCTACAACGA CTGCTTTA 2547 3767 CCAAUCAU CCCAAUC 848 GUATGGG GGCTAGCTACAACGA CTGCTTTA 2547 3767 CCAAUCAU CCAAUCAU 849 CAGTATGG GGCTAGCTACAACGA CTGCTTTA 2548 3769 CCAAUCAU CCAAUCAU 849 CAGTATGG GGCTAGCTACAACGA CTGCTTTA 2551 3772 UCAAUGCC UACUGACA 850 TTGCATTA GGCTAGCTACAACGA CTGCTTTA 2551 3772 UCAAUGCC UAUCAGA 850 TTGCATTA GGCTAGCTACAACGA CTGATTGC 2551 3778 CCAUACUG CAGGAGAU 852 TTGCATG GGCTAGCTACAACGA CTGTTTC 2551 3778 CCAUACUG CAGGAGAU 852 TTGCATG GGCTAGCTACAACGA CTGTTTC 2551 3778 CAGACAGA UUCAACUG 851 CTGTAGA GGCTAGCTACAACGA CTCTTTT 2551 3778 CAGACAGA UUCACAAC 857 TTGCTAG	ļ				
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3716 RCUAGGUG A UUUGCUUC 835 GAAGCAAA GGCTAGCTACACGA CACCTAGT 2537 3720 GGUGALUU G CUUCAAGC 836 GCTTGAAG GGCTAGCTACACGA AAATCACC 2538 3727 UGCUUCAA G CAAAUGUA 837 TACCATTG GGCTAGCTACACGA ATATCACC 2539 3731 UCAAGCAA A UGUACAAC 838 GTTGTACA GGCTAGCTACAACGA TTGCTTGA 2540 3733 AAGCAAAU G UACAACAG 839 CTGTTGTA GGCTAGCTACACGA ATTGCTT 2541 3738 AAUGUACA CAGCAGGG 841 CCATCCTG GGCTAGCTACACGA ACTTTGCT 2541 3738 AAUGUACA CAGGAUGG 841 CCATCCTG GGCTAGCTACACGA ACATTGCT 2543 3744 ACACAGGA UGGUAAAG 842 CTTTACCA GGCTAGCTACACGA ACATTGCT 2543 3744 ACAGCAGG AUGUACAA 843 ACTTTTA GGCTAGCTACACGA CTTGTTGT 2543 3745 ACAGCAGG AUGUACAA 843 AGTTTTA GGCTAGCTACACGA CTTGTTGT 2545 3755 UAAAGACU AUAAGACU 844 GGATGTA GGCTAGCTACACGA CTTCTTGT 2545 3755 UAAAGACU A UCCCAAU 846 ATTGGGA GGCTAGCTACACGA CTTCTTT 2546 3763 ACAUCCCA AUCCAAUC 846 GATGGGA GGCTAGCTACACGA CTTCTTT 2548 3767 CAAUCAUG CAUAUGC 847 GGCATTG GGCTAGCTACACGA CTTCTTT 2549 3767 CAAUCAUG CAUAUGC 849 CAGTATG GGCTAGCTACACGA CTGGTTT 2549 3769 CAAUCAUG CAUAUGC 849 CAGTATG GGCTAGCTACACGA ATTGGTT 2551 3772 UCAAUGUC CAUAUGG 849 CAGTATG GGCTAGCTACACGA ATTGGTT 2551 3772 UCAAUGUC CAUAUGU 849 CAGTATG GGCTAGCTACACGA ATTGGTT 2551 3776 CAAUCAUG CAUACUG 849 CAGTAGGA GGCTAGCTACACGA ATTGGTT 2551 3776 CAAUCAUG CAUACUG 850 TGTCAGTA GGCTAGCTACACGA ATTGGTT 2551 3776 CAUACUG CAUACUG 850 TGTCAGTA GGCTAGCTACACGA ATTGGTT 2551 3776 CAUACUG CAUACUG 850 TGTCAGTA GGCTAGCTACACGA ATTGGTT 2551 3776 CAUACUG CAUACUG 850 TGTCAGTA GGCTAGCTACACGA ATTGGTT 2551 3768 GACAGGAA UUUACAUA 855 TATGTAA GGCTAGCTACACGA TTGTTCT 2555 3768 GACAGGAA UUUACAUA 855 TATGTAA GGCTAGCTACACGA TATTTCT 2556 3769 GUGGUUUA CAUACUCAU 856 TGAGTATG GGCTAGCTACACGA TATTTCT 2557 3796 GUG					
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3735 GCANAUGU A CAACAGGA 840 TCCTGTTG GGCTAGCTACAACGA ACATTGC 2542 3738 AAUGUACA A CAGGAUGG 841 CCCATCCTG GGCTAGCTACAACGA CATACATT 2543 3743 ACAACAGG A UGGUAAAG 842 CTTTACCA GGCTAGCTACAACGA CATCCTGT 2545 3746 ACAGGAUG GUAAAGACU 843 AGTCTTTA GGCTAGCTACAACGA CATCCTGT 2545 3752 UGGUAAAG A CUACAUCC 844 GGATGTAG GGCTAGCTACAACGA CATCCTGT 2545 3755 UAAAGACU A CAUCCCAA 845 TTGGGATG GGCTAGCTACAACGA CATCCTGT 2545 3757 AAGACUAC A UCCAAUC 846 GATTGGG GGCTAGCTACAACGA AGTCTTTA 2547 3757 AAGACUAC A UCCAAUC 846 GATTGGG GGCTAGCTACAACGA AGTCTTTA 2547 3763 ACAUCCCA A UCCAAUC 846 GATTGGG GGCTAGCTACAACGA AGTCTTTA 2547 3767 CCCAAUCA A UGCCALUC 848 GATTGGG GGCTAGCTACAACGA TGGATGTT 2549 3769 CAAUCAAU G CCAUACUG 849 CAGTATGG GGCTAGCTACAACGA TGATTGGG 2550 3774 AUGCCCA A UCCAAUCG 849 CAGTATGG GGCTAGCTACAACGA TGATTGGG 2550 3774 AAUGCCA A UCCAACGA 850 TGTCAGTA GGCTAGCTACAACGA ATGATTGAG 2551 3774 AAUGCCAU A CUGACAG 850 TGTCAGTA GGCTAGCTACAACGA ATGATTGAG 2552 3774 AAUGCCAU A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATGATTGA 2553 3778 GACAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA ATGATTGA 2553 3788 GACAAGAA UAGUGGGU 853 ACCCACTA GGCTAGCTACAACGA ATGATTG 2554 3789 GACAGGAA A UAGUGGUULA 854 TAAACCCA GGCTAGCTACAACGA TTCCTGT 2555 3790 GUGGUUUA CAUAA 855 TATGGTAA GGCTAGCTACAACGA TTCCTGT 2556 3791 GUGGGUUUA CAUACUCA 856 TGAGTTAA GGCTAGCTACAACGA CACATATT 2557 3796 GUGGGUUUA A CAUCCAACGA 857 GTGAGATA GGCTAGCTACAACGA CACATATT 2557 3797 GUGGGUUUA A CAUCCAACUC 856 GTGAGTAG GGCTAGCTACAACGA ATGTAACC 2558 3798 GGGUUUACA A UCCUCACA 856 TGAGTAG GGCTAGCTACAACGA ATGTAACC 2559 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAACC 2550 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2560 3806 CAUACUCA A CUCCUGCC 860 AGGAAAG GGCTAGCTACAACGA TAGTAAAC 2560 3807 CAAGGAAA U UUUACGCU 860 AGGAAAG GGCTAGCTACAACGA ATGTAAAC 2560 3808 CAAGGAAA UUUCACG 860 AGGAAAG GGCTAGCTACAACGA ATGTAAAC 2560 3809 GUUUACA UUUCACG 860 AGGAAAG GGCTAGCTACAACGA ATGTAAAC 2560 3801 CAAGGAAG UUUCACA 860 AGGAAAG GGCTAGCTACAACGA ATCTCCT 2566 3806 GAAGGAAA UUUCACA 860 AGGAAAG GGCTAGCT	3731				
3738 AAUGUACA A CAGGAUGG 841 CCATCCTG GGCTAGCTACAACGA TGTACATT 2543 3743 ACAACAGG A UGGUANAG 842 CTTTACCA GGCTAGCTACAACGA CCTGTTCT 2544 3746 ACAGGAUG G UAAAGACU 843 AGTCTTTA GGCTAGCTACAACGA CATCCTGT 2545 3752 UGGUAAAG A UCCCAA 844 GGATGTAG GGCTAGCTACAACGA CATCCTTA 2546 3755 UAAAGACUA C AUCCCAAUC 846 GATGGGA GGCTAGCTACAACGA ATGCTTTA 2547 3767 CACAUCCA A UCAAUCC 847 GGCATTGA GGCTAGCTACAACGA TGATCTT 2548 3767 CCCAAUCA A UCACUACC 848 GTATGGA GGCTAGCTACAACGA TGATGCT 2550 3769 CAAUCAAU G CAUACUG 849 CAGTATGG GGCTAGCTACAACGA TGATTGGC 2551 3774 AAUGCCAU A CUGACAG 850 TGTCAGTA GGCTAGCTACAACGA ATGATTG 2552 3778 CCAUACUG A UACUGACA 851 CCTGTCAG GGCTAGCTACACGA ATGATTG 2553 3778 CAGGAAAU B852 ATTTCCTG GGCTAGCTACAACGA ATGATTG 2553 3788 AGGAAAUA G UAGUCAA 852 ATTTCCTG GGCTAGCTACAACGA TTCCTGTC 2555		AAGCAAAU G UACAACAG			
3744 ACAACAGG A UGGUAAAG 842 CTTTACCA GGCTAGCTACAACGA CCTGTTGT 2544 3746 ACAGGAUG G UAAAGACU 843 AGTCTTTA GGCTAGCTACAACGA CATCCTGT 2545 3752 UGGUAAAG A CUACCAC 844 GGATGTAG GGCTAGCTACAACGA CATCACCA 2546 3755 UAAAAGACU A CACCCAAUC 846 GATTGGG GGCTAGCTACAACGA AGTCTTTA 2547 3763 ACAUCCCA A UCACAAUC 846 GATTGGG GGCTAGCTACAACGA TGGATGT 2548 3767 CCCAAUCA A UCACAGC 847 GGCATTGA GGCTAGCTACAACGA TGGATGT 2549 3769 CAAUCAAU G CCAUACUG 848 GTATGGA GGCTAGCTACAACGA TGGATGT 2551 3772 UCAAUGCC A UACUGACA 850 CAGTATGA GGCTAGCTACAACGA ATTGATTG 2551 3772 UCAAUGCA A CAGGAAAU 850 CATCTCTTC GGCTAGCTACAACGA TATCATCA 2551 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA CAGTATGA 2554 3785 GACAGGAA A UAGUGGGUUA 854 TAAACCCA GGCTAGCTACAACGA TATTCCT 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTACCAACGA CACCATTT 2557 <td>3735</td> <td>GCAAAUGU A CAACAGGA</td> <td>840</td> <td>TCCTGTTG GGCTAGCTACAACGA ACATTTGC</td> <td>2542</td>	3735	GCAAAUGU A CAACAGGA	840	TCCTGTTG GGCTAGCTACAACGA ACATTTGC	2542
3746 ACAGGAUG G UANAGACU 844 AGTCTTTA GGCTAGCTACAACGA CATCCTGT 2545 3752 UGGUAAAG A CUACAUCC 844 GGATGTAG GGCTAGCTACAACGA CTTTACCA 2546 3755 UARAGACU A CAUCCCAA 845 TTGGGAT GGCTAGCTACAACGA AGTCTTTA 2547 3757 AAGACUAC A UCCCAAUC 846 GATTGGGA GGCTAGCTACAACGA AGTCTTTA 2548 3763 ACAUCCCA A UCCAAUC 848 GGATTGGA GGCTAGCTACAACGA TGGATGT 2549 3767 CCCAAUCA A UGCCAUCC 848 GGATTGGA GGCTAGCTACAACGA TGGATGT 2549 3769 CCAAUCA A UGCCAUCC 848 GTATGGCA GGCTAGCTACAACGA TGATTGT 2551 3772 UCAAUGCC A UACUGACA 850 TGTCAGTA GGCTAGCTACAACGA ATTGATTG 2551 3774 AAUGCCA A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATTGATTG 2553 3778 CCAUACUG A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATTGATTG 2554 3785 GACAGGAA A UAGUGGGU 853 ACCCACTA GGCTAGCTACAACGA CAGTATTG 2554 3785 GACAGGAA A UAGUGGGU 854 TAAACCCA GGCTAGCTACAACGA CAGTATTG 2555 3798 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA CAGTATTCCTT 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA CACTATT 2557 3796 GGGGGUUU A CAUACUCA 856 TGAGTATA GGCTAGCTACAACGA CACTATT 2557 3798 GGGUUUAC A UACUCAAC 857 GTGAGTA GGCTAGCTACAACGA CACTATT 2557 3800 GUUUACAUA A CUCCACUC 858 GAGTTAGA GGCTAGCTACAACGA CACTATT 2557 3800 GUUUACAUA A CUCCACUC 858 GAGTTAGA GGCTAGCTACAACGA ATGTAAAC 2558 3839 CAAGGAAA UAUUCAAC 857 GTGAGTA GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGTAAAC 2560 3804 CUCUGAGG CUUCUCU 861 AGAGAAGG GGCTAGCTACAACGA ATGTAAAC 2560 3804 CUCUGAGG CUUCUCU 861 AGAGAAGG GGCTAGCTACAACGA ATTCTCTC 2565 3647 GUAUUCCA G CUUCUGA 862 CTGAAATA GGCTAGCTACAACGA ATTCTCTC 2565 3647 GUAUUCCA G CUUCUGA 864 CTCGGAG GGCTAGCTACAACGA ATTCTCCT 2565 3647 GUAUUCCA G CUUCUGA 864 CTCGGAG GGCTAGCTACAACGA ATTCTCC 2565 3660 GAGUUUA UUUCAGGA 864 CTCGGAG GGCTAGCTACAACGA ATTCTCC	3738	AAUGUACA A CAGGAUGG	841	CCATCCTG GGCTAGCTACAACGA TGTACATT	2543
3752	3743	ACAACAGG A UGGUAAAG	842	CTTTACCA GGCTAGCTACAACGA CCTGTTGT	2544
3755	3746	ACAGGAUG G UAAAGACU	843		2545
3757 AAGACUAC A UCCCAAUC 846 GATTGGGA GGCTAGCTACAACGA GTAGTCTT 2548 3763 ACAUCCCA A UCAAUGCC 847 GGCATTGA GGCTAGCTACAACGA TGGGATGT 2549 3767 CCCAAUCA A UGCCAUAC 848 GTATGGCA GGCTAGCTACAACGA TGGATGT 2550 3769 CAAUCAAU G CCAUACUG 849 CAGTATGG GGCTAGCTACAACGA TTGATTGG 2551 3772 UCAAUGCC A UACUGACA 850 TGTCAGTA GGCTAGCTACAACGA ATTGATTG 2551 3774 AAUGCCAU A CUGACAG 851 CCTGTCAG GGCTAGCTACAACGA ATTGATTG 2553 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA ATTGATTG 2554 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA CAGTATGG 2554 3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TTCCTGTC 2556 3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TTCCTGTC 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTTAA GGCTAGCTACAACGA TATTTCCT 2557 3796 GUGGGUUU A CAUACUCA 856 TGAGTATA GGCTAGCTACAACGA CACTATT 2557 3796 GUGGGUU A CAUACUCA 856 TGAGTACA GGCTAGCTACAACGA CACTATT 2557 3798 GUGGUUUACAU A CUCAACUC 858 GAGTTGAG GGCTAGCTACAACGA ATACCCA 2559 3800 GUUUACAU A CUCAACUC 858 GAGTTGAG GGCTAGCTACAACGA ATACCCA 2559 3801 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUGCC 869 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGATTG 2561 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA AGGATTG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA ACTTTCCTT 2565 3841 AGGAAAGU A UUUCAGCU 863 AGCTGGAA GGCTAGCTACAACGA TTTCCTT 2565 3841 AGGAAAGU A UUUCAGCU 863 AGCTGGAA GGCTAGCTACAACGA TTTCCTT 2565 3841 AGGAAAGU A UUUCAGGA 864 CTTCGGAG GGCTAGCTACAACGA TTTCCTT 2565 3841 AGGAAAGU A UUCAGGAA 864 CTTCGTAG GGCTAGCTACAACGA TTTCCTT 2565 3841 AGGAAAGU A UUCAGGAA 864 CTTCGTAG GGCTAGCTACAACGA TTCCTTGA 2563 3855 GCUCCGAA G UUUAAUUC 865 GAATTAA GGCTAGCTACAACGA TTCCTTGA 2566 3869 UUCAGGAA G UUUAAUCA 865 CATCAGAG GGCTAGCTACAACGA TTCCTTGA 2566 3869 UUCAGGAA G UUUAAUCA 867 CATCAGAG GGCTAGCTACAACGA TTCCTTGA 2567 3860 GAAGUUUA A UUCAGGAA 867 CATCAGAG GGCTAGCTACAACGA TTCCTTGA 2567 3888 GAUGUCAA U UUAAUCC 870 ATACTACA GGCTAGCTACAACGA TTCCTTGA 2571 3888 GAUGUCAA U U	3752	UGGUAAAG A CUACAUCC	844	GGATGTAG GGCTAGCTACAACGA CTTTACCA	2546
3763 ACAUCCCA A UCAAUGCC 3476 CCCAAUCA A UGACAUACC 3488 GTATGGCA GGCTAGCTACAACGA TGGGATGT 3767 CCCAAUCA A UGCCAUACC 3488 GTATGGCA GGCTAGCTACAACGA TGATTGGG 3569 CAAUCAAU G CCAUACUG 349 CAGTATGG GGCTAGCTACAACGA ATTGGTAG 3772 UCAAUGCC A UACUGACA 350 TGTCAGTA GGCTAGCTACAACGA ATTGGTAG 3774 AAUGCCAU A CUGACAGG 351 CCTGTCAG GGCTAGCTACAACGA ATGGCATT 2551 3774 AAUGCCAU A CUGACAGG 351 CCTGTCAG GGCTAGCTACAACGA ATGGCATT 2553 3778 CCAUACUG A CAGGAAAU 352 ATTTCCTG GGCTAGCTACAACGA ATGGCATT 2553 3788 CGAUACUG A CAGGAAAU 352 ATTTCCTG GGCTAGCTACAACGA CAGTATGG 2554 3785 GACAGGAA A UAGUGGGU 353 ACCCACTA GGCTAGCTACAACGA TTCCTTCC 2555 3786 AGGAAAUA G UGGGUUUA 354 TAAACCCA GGCTAGCTACAACGA TTCCTTCC 2556 3792 AAUAGUGG G UUUACAUA 355 TATGTAAA GGCTAGCTACAACGA TATTCCT 2557 3796 GUGGGUUU A CAUACUCA 355 TATGTAAA GGCTAGCTACAACGA ATACCCAC 2558 3890 GGUUUACAU A CUCAACUC 357 GTTGAGTA GGCTAGCTACAACGA ATACCCAC 2559 3800 GUUUACAU A CUCAACUC 357 GTTGAGTA GGCTAGCTACAACGA ATACCCAC 2559 3801 CAUACUCA A CUCCUCCU 360 AGAGAAGG GGCTAGCTACAACGA ATGATAAC 2561 3811 CAACUCCU G CCUUCUCU 360 AGAGAAGG GGCTAGCTACAACGA ATGAGTAC 3824 CUCUGAGG A CUUCUUCA 361 TGAAGAAG GGCTAGCTACAACGA ATCTTCCT 366 33839 CAAGGAAAG UUUUCACG 362 CTCAAATA GGCTAGCTACAACGA ATCTTCCT 366 33847 GUAUUUCAG GGC 3664 CTTCGGAG GGCTAGCTACAACGA TTCCTTGG 3665 GAAGUUUA A UUCAAGCU 3665 GAATTAAA GGCTAGCTACAACGA TTCCTTGG 3666 GAAGUUUA A UUCAAGCU 3667 GCTAGAAGA GGCTAGCTACAACGA TTCCTTGG 3668 GAAGUUUA A UUCAAGCU 3669 GAAGAAGA GCACCAACGA TTCCTTGAA 3660 GAAGUUUA A UUCAAGCU 367 GCTAGAGAA GCTAGCTAACAACGA TTCCTTGAA 3680 CUGAGGAA G UUUAAUUC 367 GCTAGAGAA GCTAGCTAACAACGA TTCCTTGAA 3680 GAAGUUUA A UUCAAGAU 367 GCTAGAGAAGA ACCAACGA TTCCTGAA 3680 CUGAGGAA G UUUAAUAU 37 GCTAGAGAAGA ACCAACGA TTCCTGAA 3887 GUCCGAA G UUCAAGAU 3890 ATCTGAACA GGCTAGCTACAACGA TTCCTGAA 3887 UCCAGAGA A UAGAGAC 3891 TTTCCAAG GGCTAGCTACAACGA ATCATCAA 3888 GAUG	3755	UAAAGACU A CAUCCCAA	845	TTGGGATG GGCTAGCTACAACGA AGTCTTTA	2547
3767 CCCAAUCA A UGCCAUACC 848 GTATGGCA GGCTAGCTACAACGA TGATTGGG 2550 3769 CAAUCAAU G CCAUACUG 849 CAGTATG GGCTAGCTACAACGA ATTGATTG 2551 3772 UCAAUGCC A UACUGACA 850 TGTCAGTA GGCTAGCTACAACGA ATTGATTG 2551 3772 UCAAUGCCAU A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATTGATTG 2552 3774 AAUGCCAU A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATTGCATT 2553 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA ATTGCATT 2553 3785 GACAGGAA A UAGUGGGU 853 ACCCACTA GGCTAGCTACAACGA TTCCTGTC 2555 3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TTCTCTC 2555 3798 AUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA CCACTATT 2557 3798 GGGGUUUA A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA CCACTATT 2557 3798 GGGUUUACAU A UACUCAC 857 GTTGAGTA GGCTAGCTACAACGA CCACTATT 2557 3800 GUUUACAU A CUCCAACUC 858 GAGTTGAG GGCTAGCTACAACGA ATAGCCC 2559 3801 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAACC 2556 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGTAAAC 2561 3824 CUCUGAGG A CUUCUCA 861 TGAAGAAG GGCTAGCTACAACGA AGGAGTTG 2562 3824 CUCUGAGG A CUUCUCA 861 TGAAGAAG GGCTAGCTACAACGA AGGAGTTG 2563 3839 CAAGGAAA G UAUUUCAG 862 TGAAGAAG GGCTAGCTACAACGA ACGAATTCCT 2564 3841 AGGAAAGU A UUUCAGG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTTCCTTG 2564 3848 GGAAGUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTTCCTTG 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTTCCTTG 2566 3869 UUCAGGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCCTCG 2568 3875 AAGCUCUG A UGUUCAGA 868 TTCCTGAA GGCTAGCTACAACGA TTCCTGAGC 2577 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTCCTGAGC 2567 3875 AAGCUCUG A UGUUCAGA 868 TTCCTGAA GGCTAGCTACAACGA TTCCTGAG 2570 3878 CUCCGAAG G UUUAAUUC 867 ACCTAGAG GGCTAGCTACAACGA TTCCTGAA 2566 3875 AAGCUCUG A UGUCCAGAU 869 ATCTGAGA GGCTAGCTACAACGA TTCCTGAA 2566 3875 AAGCUCUG A UGUCAGAU 870 ATCTGAGA GGCTAGCTACAACGA TTCCTGAA 2570 3888 GAUGUAUA UCAGGAU 869 ATCTGAGA GGCTAGCTACAACGA TTCTCTGA 2570 3888 GAUGUAUA U UCAGGAU 871 AGCATTTA GGCTAGCTACAACGA TTCTCTGA 2571 3889 AU	3757	AAGACUAC A UCCCAAUC	846	GATTGGGA GGCTAGCTACAACGA GTAGTCTT	2548
3769 CAAUCAAU G CCAUACUG 849 CAGTATGG GGCTAGCTACAACGA ATTGATTG 2551 3772 UCAAUGCC A UACUGACA 850 TGTCAGTA GGCTAGCTACAACGA GGCATTGA 2552 3774 AAUGCCAU A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATGGCATT 2553 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA ATGGCATT 2553 3788 CGAGGAA A UAGUGGGU 853 ACCCACTA GGCTAGCTACAACGA TTCCTGTC 2555 3788 AGGAANA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TTCCTGTC 2555 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA TTCCTGTC 2555 3796 GUGGGUUU A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA CCACTATT 2557 3796 GUGGGUUU A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA CCACTATT 2557 3798 GGGUUUACA A UACUCAAC 857 GTTGAGTA GGCTAGCTACAACGA AAACCCA 2559 3800 GUUUACAU A CUCAACU 856 GATTGAG GGCTAGCTACAACGA ATGTAAACC 2559 3801 CAUACUCA A CUCCUGCC 859 GGCAGGA GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUGCC 859 GGCAGGA GGCTAGCTACAACGA ATGTAAAC 2560 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGTAAAC 2561 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA ATGGATACC 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA ATGTATAC 2566 3841 AGGAAAGU A UUUCAGGU 863 AGCTGAATA GGCTAGCTACAACGA TCTCCTG 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTCCCTT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTCCCTT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTCCCTT 2565 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCCCTT 2565 3860 GAAGUUUA A UUCAGGAA 866 TCCCTGAA GGCTAGCTACAACGA TTCCCTAGA 2566 3865 GUCCGGAA G UUUAAUUC 867 CATCAGAG GGCTAGCTACAACGA TTCCCTAA 2566 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTCAA 2566 3860 GAAGUUUA A UUCAGGAA 866 TCCCTGAA GGCTAGCTACAACGA TTCCTGAA 2566 3860 GAAGUUAA A UGCAGAU 869 ATCTGAA GGCTAGCTACAACGA ATCTCCT 2565 3878 AAGCCUC A UGAUGUCA 869 ATCTGAA GGCTAGCTACAACGA ATCTCAGA 2571 3888 CUCUGAUG A UGUAAUG 870 ATTCTCA GGCTAGCTACAACGA ATCTCAGA 2571 3889 UCAGAAUAU G UAAAUGU 870 ATTCTCAA GGCTAGCTACAACGA ATCTCAGA 2571 3889 UCAGAAUAU G UAAAUGU 871 ATCTTACA GGCTAGCTACAACGA ATCTCAGA 2571 3889 UCAGAUAU G UAAA	3763	ACAUCCCA A UCAAUGCC	847	GGCATTGA GGCTAGCTACAACGA TGGGATGT	2549
3772 UCAAUGCC A UACUGACA 850 TGTCAGTA GGCTAGCTACAACGA GGCATTGA 2552 3774 AAUGCCAU A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATGGCATT 2553 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA ATGGCATT 2553 3785 GACAGGAA A UAGUGGGU 853 ACCACTA GGCTAGCTACAACGA CAGTATGG 2554 3786 AGGAAGUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TTCCTGTC 2555 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA TATTTCCT 2556 3796 GUGGGUUU A CAUACUCAA 856 TGAGTATG GGCTAGCTACAACGA CACTATT 2557 3796 GUGGGUUU A CAUACUCAA 856 TGAGTATG GGCTAGCTACAACGA AAACCCAC 2558 3799 GGGUUUACAU A CUCCAACC 856 GTAGGTAG GGCTAGCTACAACGA ATGTAAACC 2559 3800 GUUUACAU A CUCCAACC 858 GAGTTGAG GGCTAGCTACAACGA ATGTAAAC 2560 3801 CAUACUCA A CUCCUCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2560 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGTAAAC 2561 3824 CUCUGAGG A CUUCUCCA 861 TGAAGAG GGCTAGCTACAACGA AGGAGTTG 2562 3839 CAAGGAAA G UAUUCAG 862 TGAAGAG GGCTAGCTACAACGA AGGAGTTG 2563 3839 CAAGGAAA G UAUUCAG 862 TGAAGAA GGCTAGCTACAACGA TCATCCTC 2564 3841 AGGAAAGU A UUUCAGGU 863 AGCTGAAA GGCTAGCTACAACGA TCTCCTC 2564 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TCTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTCCTTG 2566 3848 GGAAGUUUA A UUCCAGGAA 865 TCCTCGAA GGCTAGCTACAACGA TTCCTTG 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TAAACTC 2566 3860 GAAGUUUA A UUCCAGGAA 866 TCCCTGAA GGCTAGCTACAACGA TTCCTTG 2566 3860 GAAGUUUA A UUCAGGAA 866 TCCCTGAA GGCTAGCTACAACGA TAAACTC 2566 3878 AAGCUCUG A UGAUGUCA 869 TAACACCA GGCTAGCTACAACGA TAACCTA C2569 3878 AAGCUCUA A UGCAGAU 867 TCCTGAA GGCTAGCTACAACGA TAACCTA C2569 3878 CUCCGAAG UUUAAUUC 867 TCCTGAA GGCTAGCTACAACGA TAACCTA C2569 3878 CUCCGAAG A UAUGUAAAU 870 ATATCTGA GGCTAGCTACAACGA TTCCTGAA 2571 3889 UCCAGAUAU GUCAGAU 869 ATCTGAA GGCTAGCTACAACGA ATCATCA 2572 3889 UCCAGAUAU GUCAGAU 871 ATCTGA GGCTAGCTACAACGA ATCATCA 2573 3889 UCCAGAUAU GUAAAUG 872 CATCTACA GGCTAGCTACAACGA ATCATCA 2573 3893 AUAUGUAA A UGCUAGAG 875 CTTGAAAG GGCTAGCTACAACGA ATTACCTA 2575 3893 AUAUGAAU G UUCAGAG 875 C	3767	CCCAAUCA A UGCCAUAC	848	GTATGGCA GGCTAGCTACAACGA TGATTGGG	2550
3774 AAUGCCAU A CUGACAGG 851 CCTGTCAG GGCTAGCTACAACGA ATGCCATT 2553 3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA CAGTATGG 2554 3785 GACAGGAA A UAGUGGGUU 853 ACCCACTA GGCTAGCTACAACGA TTCCTGTC 2555 3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TTCCTGTC 2555 3788 AGGAAUA G UGGGUUUA 855 TATGTAAA GGCTAGCTACAACGA TATTTCCT 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA TATTTCCT 2556 3798 GGGUUUAC A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA CACCTATT 2557 3798 GGGUUUAC A UACUCAAC 857 GTTGAGTA GGCTAGCTACAACGA AAACCCA 2559 3800 GUUUACAU A CUCAACUC 858 GAGTTGGA GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2560 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGAGTTG 2561 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA AGGAGTTG 2562 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA AGGAGTTG 2563 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCTT 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GCTAGCTACAACGA ACTTTCCT 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTGCATCC 2567 3860 GAAGUUUA A UUCAGGAA 866 CTTCGGAG GCTAGCTACAACGA TTGCATCC 2567 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCGTAG 2567 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCGAGC 2567 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTAGA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTGAA 2569 3876 CUCUGAUG A UGAGAUAU 867 CATCAGAG GGCTAGCTACAACGA ACTACTC 2573 38878 CUCUGAUG A UGAAAUU 869 ATCTGAGA GGCTAGCTACAACGA ATCATCA 2572 38887 UUCAGGAU A UGUAAAU 871 TTACATA GGCTAGCTACAACGA ATCATCA 2573 3889 UCAGAUAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCA 2573 3889 UCAGAUAU G UCAGAUAU 871 ATATCTGA GGCTAGCTACAACGA ATCATCA 2573 3889 UCAGAUAU G UCAGAUAU 871 ATATCTGA GGCTAGCTACAACGA ATCTTCAC 2573 3893 AUAUGUAA UGUAAAA 871 TTACATA GGCTAGCTACAACGA ATCATCA 2577 3903 GCUUCAAG UUCAAGA 875 CTTGTAAA GGCTAGCTACAACGA ATCATCA 2577 3903 GCUUCAA G UUCAUGAG	3769	CAAUCAAU G CCAUACUG	849	CAGTATGG GGCTAGCTACAACGA ATTGATTG	2551
3778 CCAUACUG A CAGGAAAU 852 ATTTCCTG GGCTAGCTACAACGA CAGTATGG 2554 3785 GACAGGAA A UAGUGGGU 853 ACCCACTA GGCTAGCTACAACGA TTCCTGTC 2555 3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TATTTCCT 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA CACCACTATT 2557 3796 GUGGGUUU A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA AAACCCAC 2558 3798 GGGUUUACAU A CUCAACUC 857 GTTGAGTA GGCTAGCTACAACGA ATGTAAAC 2559 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2560 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGTAAAC 2562 3824 CUCUGAGG A CUUCUCA 861 TGAAGAAG GCTAGCTACAACGA ACTTCCT 2566 2563 3847 GUAUUCA G CUCCGAAG 864 CTTCAGGAG GGCTAGCTACAACGA ACTTCCT 2566 2565 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TAAACTTC 2566 2567 3860 GAAGUUA A UUCAGGUA 866 TCCTGGAG GCTAGCTACAA	3772	UCAAUGCC A UACUGACA	850	TGTCAGTA GGCTAGCTACAACGA GGCATTGA	2552
3785 GACAGGAA A UAGUGGGU 853 ACCCACTA GGCTAGCTACAACGA TTCCTGTC 2555 3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TATTTCCT 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA CACTATT 2557 3796 GUGGGUUU A CAUCACC 856 TGAGTATG GGCTAGCTACAACGA AAACCCA 2558 3798 GGGUUUACAU A CUCCAACC 857 GTTGAGT GGCTAGCTACAACGA ATGTAAACC 2559 3800 GUUUACAU A CUCAACUC 858 GAGTTGGA GGCTAGCTACAACGA ATGTAAACC 2559 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTATAC 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGTATTG 2562 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA CCTCAGAG 2563 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCTT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTAAACTTC 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCCTGAA 2566 3860 GAA	3774	AAUGCCAU A CUGACAGG	851	CCTGTCAG GGCTAGCTACAACGA ATGGCATT	2553
3788 AGGAAAUA G UGGGUUUA 854 TAAACCCA GGCTAGCTACAACGA TATTTCCT 2556 3792 AAUAGUGG G UUUACAUA 855 TATGTAAA GGCTAGCTACAACGA CCACTATT 2557 3796 GUGGGUUU A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA AACCCAC 2558 3798 GGGUUUACA A UACUCAACU 857 GTTGAGTA GGCTAGCTACAACGA ATGTAAAC 2559 3800 GUUUACAU A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA ATGTAATAC 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA ATGAGTATG 2562 3824 CUCUGAGA A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA ACTTTCCTT 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCTT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTTCCTT 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TAAACTTC 2568 3860 GAAGUUUA A UUCAGGAU 865 TTCCTGAA GGCTAGCTACAACGA TTACCTCAAACGA TTCCTGAA	3778	CCAUACUG A CAGGAAAU	852	ATTTCCTG GGCTAGCTACAACGA CAGTATGG	2554
3792	3785	GACAGGAA A UAGUGGGU	853	ACCCACTA GGCTAGCTACAACGA TTCCTGTC	2555
3796 GUGGGUUU A CAUACUCA 856 TGAGTATG GGCTAGCTACAACGA AAACCCAC 2558 3798 GGGUUUAC A UACUCAAC 857 GTTGAGTA GGCTAGCTACAACGA GTAAACCC 2559 3800 GUUUACAU A CUCAACUC 858 GAGTTGAG GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA TGAGTATG 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGAGTTG 2562 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA AGGAGTTG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3841 AGGAAGGU A UUUCAGGU 863 AGCTTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTTCCTTC 2565 3848 GUUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTTCGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTCCGAGC 2567 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTGAA 2569 3878 CUCUGAUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTGAA 2569 3878 CUCUGAUG A UGAUGUCA 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ACTCAGAG 2571 3881 GAUGUCAG A UAUGUAAAA 871 TTTACATA GGCTAGCTACAACGA ATCATCAG 2572 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCATCAG 2573 3887 UGUCAGAU A UGUAAAUG 873 AGCATTA GGCTAGCTACAACGA ATCTCAG 2574 3889 UCAGAUAU A UGAAAUGC 873 AGCATTA GGCTAGCTACAACGA ATCTCAGA 2575 3893 AUAUGUAA A UGUAAAUG 874 TGAAAGCA GGCTAGCTACAACGA ATATCTAG 2575 3895 AUGUCAGA U UAAAUGCU 873 AGCATTA GGCTAGCTACAACGA ATATCTAG 2575 3895 AUGUCAGA A UGCUACAG 875 CTCAAAGG GGCTAGCTACAACGA ATATCATA 2576 3895 AUGUCAGA A UGCUACAG 876 CTCATGAA GGCTAGCTACAACGA ATATCATA 2576 3895 AUGUCAGA A UGCUACAG 876 CTCATGAA GGCTAGCTACAACGA ATATCATA 2577 3903 GCUUUCAA G UUCAAGG 876 CTCATGAA GGCTAGCTACAACGA ATATCATA 2577 3903 GCUUCAA G UUCAAGA 876 CTCATGAA GGCTAGCTACAACGA ATTTCATA 2577 3903 GCUUCAA G UUCAAGA 876 CTCATGAA GGCTAGCTACAACGA ATTTCAT 2577 3903 GCUUCAA G UCAAAACC 877 CAGGCTCA GGCTAGCTACAACGA ATTTCAT 2577 3901 UCAAGUC A UGAGCCUG 877 CAGGCTAG GGCTAGCTACAACGA ATTTACAT 2577 3902 GCUUCAA G UC	3788	AGGAAAUA G UGGGUUUA	854	TAAACCCA GGCTAGCTACAACGA TATTTCCT	2556
3798 GGGUUUAC A UACUCAAC 857 GTTGAGTA GGCTAGCTACAACGA GTAAACCC 2559 3800 GUUUACAU A CUCAACUC 858 GAGTTGAG GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAVACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA TGAGTATG 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGAGTTG 2562 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA CCTCAGAG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3841 AGGAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TTTCCTG 2565 3855 GCUCCGAAG 640 CTTCGGAG GGCTAGCTACAACGA TTCCGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTCCGGAGC 2567 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTGAA 2569 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA ATCATCAG 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTCAG 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTAG 2575 3893 AUAUGUAAA A UGUUUCAA 874 TGTAAAAGCA GGCTAGCTACAACGA ATATCTAG 2575 3895 AUGUAAAU G UAAAUGCU 874 TGTAAAGCA GGCTAGCTACAACGA ATATCTAG 2577 3903 GCUUUCAA G UUCAAGA 876 CTCATGAA GGCTAGCTACAACGA ATATCATA 2576 3895 AUGUAAAU G UUCAAGA 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAAGA 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAAGA 877 CAGGCTCA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UCAAAACC 877 CAGGCTCA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UCAAAACC 877 CAGGCTCA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TTTACAACC 2580 3922 UGGAAAGA A UCAAAACC	3792	AAUAGUGG G UUUACAUA	855	TATGTAAA GGCTAGCTACAACGA CCACTATT	2557
3800 GUUUACAU A CUCAACUC 858 GAGTTGAG GGCTAGCTACAACGA ATGTAAAC 2560 3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA TGAGTATG 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGAGTTG 2562 3824 CUCUGAGG A CUUCUCA 861 TGAAGAAG GGCTAGCTACAACGA CCTCAGAG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTACAACGA TTCCTTG 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTACCAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TGAAATAC 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTACCAACGA TGAACTAC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTACCTACACGA TTACACCGA TACACCGA CACCACCAA CACCACCAA CACCACCAA CACCACCA	3796	GUGGGUUU A CAUACUCA	856	TGAGTATG GGCTAGCTACAACGA AAACCCAC	2558
3805 CAUACUCA A CUCCUGCC 859 GGCAGGAG GGCTAGCTACAACGA TGAGTATG 2561 3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGAGTTG 2562 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA CCTCAGAG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA ACTTTCCT 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TGAAATAC 2566 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTCGGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTGAA 2569 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA ATCATCAG 2572 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCATCAC 2573 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCAACGA ATCATCACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATCATCAA 2576 3893 AUAUGUAA A UGCUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTTCTGA 2575 3893 AUAUGUAA UGUAAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3901 GCUUCAAG G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3901 GCUGAAGAA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCATGAAC 2580	3798	GGGUUUAC A UACUCAAC	857	GTTGAGTA GGCTAGCTACAACGA GTAAACCC	2559
3811 CAACUCCU G CCUUCUCU 860 AGAGAAGG GGCTAGCTACAACGA AGGAGTTG 2562 3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA CCTCAGAG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TGAAATAC 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCGGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTAAACTTC 2568 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CTACAAGA CTACAGAG 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3887 UGUCAGAU A UGUAAAU 871 TTTACATA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATCTGAA	3800	GUUUACAU A CUCAACUC	858	GAGTTGAG GGCTAGCTACAACGA ATGTAAAC	2560
3824 CUCUGAGG A CUUCUUCA 861 TGAAGAAG GGCTAGCTACAACGA CCTCAGAG 2563 3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA ACTTTCCT 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TGAAATAC 2566 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TTCGGAGC 2567 3860 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA TTCCTGAA 2569 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAG G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA ATCATCAG 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUCAA 874 TGAAAGCA GGCTAGCTACAACGA ATTACATA 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3904 GCUUCAA G UUCAUGAG 877 CAGGCTCA GGCTAGCTACAACGA ATTTACAT 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA GAACTTGA 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3805	CAUACUCA A CUCCUGCC	859	GGCAGGAG GGCTAGCTACAACGA TGAGTATG	2561
3839 CAAGGAAA G UAUUUCAG 862 CTGAAATA GGCTAGCTACAACGA TTTCCTTG 2564 3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TGAAATAC 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TGAAATAC 2566 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TAAACTTC 2568 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTACATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCATGAAC 2581	3811	CAACUCCU G CCUUCUCU	860	AGAGAAGG GGCTAGCTACAACGA AGGAGTTG	2562
3841 AGGAAAGU A UUUCAGCU 863 AGCTGAAA GGCTAGCTACAACGA ACTTTCCT 2565 3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TGAAATAC 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCGGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TAAACTTC 2568 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTTCATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA TTGAAAGC 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATCAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3824	CUCUGAGG A CUUCUUCA	861	TGAAGAAG GGCTAGCTACAACGA CCTCAGAG	2563
3847 GUAUUUCA G CUCCGAAG 864 CTTCGGAG GGCTAGCTACAACGA TGAAATAC 2566 3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCGGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TAAACTTC 2568 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3689 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTTACAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCATGAAC 2581	3839	CAAGGAAA G UAUUUCAG	862	CTGAAATA GGCTAGCTACAACGA TTTCCTTG	2564
3855 GCUCCGAA G UUUAAUUC 865 GAATTAAA GGCTAGCTACAACGA TTCGGAGC 2567 3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TAAACTTC 2568 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTTACAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2579 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3841	AGGAAAGU A UUUCAGCU	863	AGCTGAAA GGCTAGCTACAACGA ACTTTCCT	2565
3860 GAAGUUUA A UUCAGGAA 866 TTCCTGAA GGCTAGCTACAACGA TAAACTTC 2568 3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTTACAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3847	GUAUUUCA G CUCCGAAG	864	CTTCGGAG GGCTAGCTACAACGA TGAAATAC	2566
3869 UUCAGGAA G CUCUGAUG 867 CATCAGAG GGCTAGCTACAACGA TTCCTGAA 2569 3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATTTACAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3855	GCUCCGAA G UUUAAUUC	865	GAATTAAA GGCTAGCTACAACGA TTCGGAGC	2567
3875 AAGCUCUG A UGAUGUCA 868 TGACATCA GGCTAGCTACAACGA CAGAGCTT 2570 3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATATCTGA 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2576 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3860	GAAGUUUA A UUCAGGAA	866	TTCCTGAA GGCTAGCTACAACGA TAAACTTC	2568
3878 CUCUGAUG A UGUCAGAU 869 ATCTGACA GGCTAGCTACAACGA CATCAGAG 2571 3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATATCTGA 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2576 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3869	UUCAGGAA G CUCUGAUG	867	CATCAGAG GGCTAGCTACAACGA TTCCTGAA	2569
3880 CUGAUGAU G UCAGAUAU 870 ATATCTGA GGCTAGCTACAACGA ATCATCAG 2572 3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA ATATCATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3875	AAGCUCUG A UGAUGUCA	868	TGACATCA GGCTAGCTACAACGA CAGAGCTT	2570
3885 GAUGUCAG A UAUGUAAA 871 TTTACATA GGCTAGCTACAACGA CTGACATC 2573 3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA TTACATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA ATTTACAT 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3878	CUCUGAUG A UGUCAGAU	869	ATCTGACA GGCTAGCTACAACGA CATCAGAG	2571
3887 UGUCAGAU A UGUAAAUG 872 CATTTACA GGCTAGCTACAACGA ATCTGACA 2574 3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA TTACATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTGA GGCTAGCTACAACGA TCTTCCA 2581	3880	CUGAUGAU G UCAGAUAU	870	ATATCTGA GGCTAGCTACAACGA ATCATCAG	2572
3889 UCAGAUAU G UAAAUGCU 873 AGCATTTA GGCTAGCTACAACGA ATATCTGA 2575 3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA TTACATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3885	GAUGUCAG A UAUGUAAA	871	TTTACATA GGCTAGCTACAACGA CTGACATC	2573
3893 AUAUGUAA A UGCUUUCA 874 TGAAAGCA GGCTAGCTACAACGA TTACATAT 2576 3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3887	UGUCAGAU A UGUAAAUG	872	CATTIACA GGCTAGCTACAACGA ATCTGACA	2574
3895 AUGUAAAU G CUUUCAAG 875 CTTGAAAG GGCTAGCTACAACGA ATTTACAT 2577 3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3889	UCAGAUAU G UAAAUGCU	873	AGCATTTA GGCTAGCTACAACGA ATATCTGA	2575
3903 GCUUUCAA G UUCAUGAG 876 CTCATGAA GGCTAGCTACAACGA TTGAAAGC 2578 3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3893	AUAUGUAA A UGCUUUCA	874	TGAAAGCA GGCTAGCTACAACGA TTACATAT	2576
3907 UCAAGUUC A UGAGCCUG 877 CAGGCTCA GGCTAGCTACAACGA GAACTTGA 2579 3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3895	AUGUAAAU G CUUUCAAG	875	CTTGAAAG GGCTAGCTACAACGA ATTTACAT	2577
3911 GUUCAUGA G CCUGGAAA 878 TTTCCAGG GGCTAGCTACAACGA TCATGAAC 2580 3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3903	GCUUUCAA G UUCAUGAG	876	CTCATGAA GGCTAGCTACAACGA TTGAAAGC	2578
3922 UGGAAAGA A UCAAAACC 879 GGTTTTGA GGCTAGCTACAACGA TCTTTCCA 2581	3907	UCAAGUUC A UGAGCCUG	877	CAGGCTCA GGCTAGCTACAACGA GAACTTGA	2579
	3911	GUUCAUGA G CCUGGAAA	878	TTTCCAGG GGCTAGCTACAACGA TCATGAAC	2580
3928 GAAUCAAA A CCUUUGAA 880 TTCAAAGG GGCTAGCTACAACGA TTTGATTC 2582	3922	UGGAAAGA A UCAAAACC	879	GGTTTTGA GGCTAGCTACAACGA TCTTTCCA	2581
	3928	GAAUCAAA A CCUUUGAA	880	TTCAAAGG GGCTAGCTACAACGA TTTGATTC	2582

2020	THITCH ACA A CHANGEACO	001	CCTATATC CCCTACCTACAACCA HOMBOAAA	2502
3939	UUUGAAGA A CUUUUACC	881	GGTAAAAG GGCTAGCTACAACGA TCTTCAAA	2583
3945	GAACUUUU A CCGAAUGC	882	GCATTCGG GGCTAGCTACAACGA AAAAGTTC	2584
3950	UUUACCGA A UGCCACCU	883	AGGTGGCA GGCTACCTACAACGA TCGGTAAA	2585
3952	UACCGAAU G CCACCUCC	884	GGAGGTGG GGCTAGCTACAACGA ATTCGGTA CATGGAGG GGCTAGCTACAACGA GGCATTCG	2586
3955	CGAAUGCC A CCUCCAUG	885		2587
3961	CCACCUCC A UGUUUGAU	886	ATCAAACA GGCTAGCTACAACGA GGAGGTGG	2588
3963	ACCUCCAU G UUUGAUGA	887	TCATCAAA GGCTAGCTACAACGA ATGGAGGT	2589
3968	CAUGUUUG A UGACUACC	888	GGTAGTCA GGCTAGCTACAACGA CAAACATG	2590
3971	GUUUGAUG A CUACCAGG	889	CCTGGTAG GGCTAGCTACAACGA CATCAAAC	2591
3974	UGAUGACU A CCAGGGCG	890	CGCCCTGG GGCTAGCTACAACGA AGTCATCA	2592
3980	CUACCAGG G CGACAGCA	891	TGCTGTCG GGCTAGCTACAACGA CCTGGTAG	2593
3983	CCAGGGCG A CAGCAGCA	892	TGCTGCTG GGCTAGCTACAACGA CGCCCTGG	2594
3986	GGGCGACA G CAGCACUC	893	GAGTGCTG GGCTAGCTACAACGA TGTCGCCC	2595
3989	CGACAGCA G CACUCUGU	894	ACAGAGTG GGCTAGCTACAACGA TGCTGTCG	2596
3991	ACAGCAGC A CUCUGUUG	895	CAACAGAG GGCTAGCTACAACGA GCTGCTGT	2597
3996	AGCACUCU G UUGGCCUC	896	GAGGCCAA GGCTAGCTACAACGA AGAGTGCT	2598
4000	CUCUGUUG G CCUCUCCC	897	GGGAGAGG GGCTAGCTACAACGA CAACAGAG	2599
4009	CCUCUCCC A UGCUGAAG	898	CTTCAGCA GGCTAGCTACAACGA GGGAGAGG	2600
4011	UCUCCCAU G CUGAAGCG	899	CGCTTCAG GGCTAGCTACAACGA ATGGGAGA	2601
4017	AUGCUGAA G CGCUUCAC	900	GTGAAGCG GGCTAGCTACAACGA TTCAGCAT	2602
4019	GCUGAAGC G CUUCACCU	901	AGGTGAAG GGCTAGCTACAACGA GCTTCAGC	2603
4024	AGCGCUUC A CCUGGACU	902	AGTCCAGG GGCTAGCTACAACGA GAAGCGCT	2604
4030	UCACCUGG A CUGACAGC	903	GCTGTCAG GGCTAGCTACAACGA CCAGGTGA	2605
4034	CUGGACUG A CAGCAAAC	904	GTTTGCTG GGCTAGCTACAACGA CAGTCCAG	2606 .
4037	GACUGACA G CAAACCCA	905	TGGGTTTG GGCTAGCTACAACGA TGTCAGTC	2607
4041	GACAGCAA A CCCAAGGC	906	GCCTTGGG GGCTAGCTACAACGA TTGCTGTC	2608
4048	AACCCAAG G CCUCGCUC	907	GAGCGAGG GGCTAGCTACAACGA CTTGGGTT	2609
4053	AAGGCCUC G CUCAAGAU	908	ATCTTGAG GGCTAGCTACAACGA GAGGCCTT	2610
4060	CGCUCAAG A UUGACUUG	909	CAAGTCAA GGCTAGCTACAACGA CTTGAGCG	2611
4064	CAAGAUUG A CUUGAGAG	910	CTCTCAAG GGCTAGCTACAACGA CAATCTTG	2612
4072	ACUUGAGA G UAACCAGU	911	ACTGGTTA GGCTAGCTACAACGA TCTCAAGT	2613
4075	UGAGAGUA A CCAGUAAA	912	TTTACTGG GGCTAGCTACAACGA TACTCTCA	2614
4079	AGUAACCA G UAAAAGUA	913	TACTTTTA GGCTAGCTACAACGA TGGTTACT	2615
4085	CAGUAAAA G UAAGGAGU	914	ACTCCTTA GGCTAGCTACAACGA TTTTACTG	2616
4092	AGUAAGGA G UCGGGGCU	915	AGCCCCGA GGCTAGCTACAACGA TCCTTACT	2617
4098	GAGUCGGG G CUGUCUGA	916	TCAGACAG GGCTAGCTACAACGA CCCGACTC	2618
4101	UCGGGGCU G UCUGAUGU	917	ACATCAGA GGCTAGCTACAACGA AGCCCCGA	2619
4106	GCUGUCUG A UGUCAGCA	918	TGCTGACA GGCTAGCTACAACGA CAGACAGC	2620
4108	UGUCUGAU G UCAGCAGG	919	CCTGCTGA GGCTAGCTACAACGA ATCAGACA	2621
4112	UGAUGUCA G CAGGCCCA	920	TGGGCCTG GGCTAGCTACAACGA TGACATCA	2622
4116	GUCAGCAG G CCCAGUUU	921	AAACTGGG GGCTAGCTACAACGA CTGCTGAC	2623
4121	CAGGCCCA G UUUCUGCC	922	GGCAGAAA GGCTAGCTACAACGA TGGGCCTG	2624
4127	CAGUUUCU G CCAUUCCA	923	TGGAATGG GGCTAGCTACAACGA AGAAACTG	2625
4130	UUUCUGCC A UUCCAGCU	924	AGCTGGAA GGCTAGCTACAACGA GGCAGAAA	2626
4136	CCAUUCCA G CUGUGGGC	925	GCCCACAG GGCTAGCTACAACGA TGGAATGG	2627
4139	UUCCAGCU G UGGGCACG	926	CGTGCCCA GGCTAGCTACAACGA AGCTGGAA	2628
4143	AGCUGUGG G CACGUCAG	927	CTGACGTG GGCTAGCTACAACGA CCACAGCT	2629
4145	CUGUGGGC A CGUCAGCG	928	CGCTGACG GGCTAGCTACAACGA GCCCACAG	2630
4147	GUGGGCAC G UCAGCGAA	929	TTCGCTGA GGCTAGCTACAACGA GTGCCCAC	2631
4151	GCACGUCA G CGAAGGCA	930	TGCCTTCG GGCTAGCTACAACGA TGACGTGC	2632
4157	CAGCGAAG G CAAGCGCA	931	TGCGCTTG GGCTAGCTACAACGA CTTCGCTG	2633
4161	GAAGGCAA G CGCAGGUU	932	AACCTGCG GGCTAGCTACAACGA TTGCCTTC	2634

4163	AGGCAAGC G CAGGUUCA	933	TGAACCTG GGCTAGCTACAACGA GCTTGCCT	2635
4167	AAGCGCAG G UUCACCUA	934	TAGGTGAA GGCTAGCTACAACGA CTGCGCTT	2636
4171	GCAGGUUC A CCUACGAC	935	GTCGTAGG GGCTAGCTACAACGA GAACCTGC	2637
4175	GUUCACCU A CGACCACG	936	CGTGGTCG GGCTAGCTACAACGA AGGTGAAC	2638
4178	CACCUACG A CCACGCUG	937	CAGCGTGG GGCTAGCTACAACGA CGTAGGTG	2639
4181	CUACGACC A CGCUGAGC	938	GCTCAGCG GGCTAGCTACAACGA GGTCGTAG	2640
4183	ACGACCAC G CUGAGCUG	939	CAGCTCAG GGCTAGCTACAACGA GTGGTCGT	2641
4188	CACGCUGA G CUGGAAAG	940	CTTTCCAG GGCTAGCTACAACGA TCAGCGTG	2642
4201	AAAGGAAA A UCGCGUGC	941	GCACGCGA GGCTAGCTACAACGA TTTCCTTT	2643
4204	GGAAAAUC G CGUGCUGC	942	GCAGCACG GGCTAGCTACAACGA GATTTTCC	2644
4206	AAAAUCGC G UGCUGCUC	943	GAGCAGCA GGCTAGCTACAACGA GCGATTTT	2645
4208	AAUCGCGU G CUGCUCCC	944	GGGAGCAG GGCTAGCTACAACGA ACGCGATT	2646
4211	CGCGUGCU G CUCCCCGC	945	GCGGGGAG GGCTAGCTACAACGA AGCACGCG	2647
4218	UGCUCCCC G CCCCCAGA	946	TCTGGGGG GGCTAGCTACAACGA GGGGAGCA	2648
4226	GCCCCAG A CUACAACU	947	AGTTGTAG GGCTAGCTACAACGA CTGGGGGC	2649
4229	CCCAGACU A CAACUCGG	948	CCGAGTTG GGCTAGCTACAACGA AGTCTGGG	2650
4232	AGACUACA A CUCGGUGG	949	CCACCGAG GGCTAGCTACAACGA TGTAGTCT	2651
4237	ACAACUCG G UGGUCCUG	950	CAGGACCA GGCTAGCTACAACGA CGAGTTGT	2652
4240	ACUCGGUG G UCCUGUAC	951	GTACAGGA GGCTAGCTACAACGA CACCGAGT	2653
4245	GUGGUCCU G UACUCCAC	952	GTGGAGTA GGCTAGCTACAACGA AGGACCAC	2654
4247	GGUCCUGU A CUCCACCC	953	GGGTGGAG GGCTAGCTACAACGA ACAGGACC	2655
4252	UGUACUCC A CCCCACCC	954	GGGTGGGG GGCTAGCTACAACGA GGAGTACA	2656
4257	UCCACCC A CCCAUCUA	955	TAGATGGG GGCTAGCTACAACGA GGGGTGGA	2657
4261	CCCCACCC A UCUAGAGU	956	ACTCTAGA GGCTAGCTACAACGA GGGTGGGG	2658
4268	CAUCUAGA G UUUGACAC	957	GTGTCAAA GGCTAGCTACAACGA TCTAGATG	2659
4273	AGAGUUUG A CACGAAGC	958	GCTTCGTG GGCTAGCTACAACGA CAAACTCT	2660
4275	AGUUUGAC A CGAAGCCU	959	AGGCTTCG GGCTAGCTACAACGA GTCAAACT	2661
4280	GACACGAA G CCUUAUUU	960	AAATAAGG GGCTAGCTACAACGA TTCGTGTC	2662
4285	GAAGCCUU A UUUCUAGA	961	TCTAGAAA GGCTAGCTACAACGA AAGGCTTC	2663
4295	UUCUAGAA G CACAUGUG	962	CACATGTG GGCTAGCTACAACGA TTCTAGAA	2664
4297	CUAGAAGC A CAUGUGUA	963	TACACATG GGCTAGCTACAACGA GCTTCTAG	2665
4299	AGAAGCAC A UGUGUAUU	964	AATACACA GGCTAGCTACAACGA GTGCTTCT	2666
4301	AAGCACAU G UGUAUUUA	965	TAAATACA GGCTAGCTACAACGA ATGTGCTT	2667
4303	GCACAUGU G UAUUUAUA	966	TATAAATA GGCTAGCTACAACGA ACATGTGC	2668
4305	ACAUGUGU A UUUAUACC	967	GGTATAAA GGCTAGCTACAACGA ACACATGT	2669
4309	GUGUAUUU A UACCCCCA	968	TGGGGGTA GGCTAGCTACAACGA AAATACAC	2670
4311	GUAUUUAU A CCCCCAGG	969	CCTGGGGG GGCTAGCTACAACGA ATAAATAC	2671
4322	CCCAGGAA A CUAGCUUU	970	AAAGCTAG GGCTAGCTACAACGA TTCCTGGG	2672
4326	GGAAACUA G CUUUUGCC	971	GGCAAAAG GGCTAGCTACAACGA TAGTTTCC	2673
4332	UAGCUUUU G CCAGUAUU	972	AATACTGG GGCTAGCTACAACGA AAAAGCTA	2674
4336	UUUUGCCA G UAUUAUGC	973	GCATAATA GGCTAGCTACAACGA TGGCAAAA	2675
4338	UUGCCAGU A UUAUGCAU	974	ATGCATAA GGCTAGCTACAACGA ACTGGCAA	2676
4341	CCAGUAUU A UGCAUAUA	975	TATATGCA GGCTAGCTACAACGA AATACTGG	2677
4343	AGUAUUAU G CAUAUAUA	976	TATATATG GGCTAGCTACAACGA ATAATACT	2678
4345	UAUUAUGC A UAUAUAAG	977	CTTATATA GGCTAGCTACAACGA GCATAATA	2679
4347	UUAUGCAU A UAUAAGUU	978	AACTTATA GGCTAGCTACAACGA ATGCATAA	2680
4349	AUGCAUAU A UAAGUUUA	979	TAAACTTA GGCTAGCTACAACGA ATATGCAT	2681
4353	AUAUAUAA G UUUACACC	980	GGTGTAAA GGCTAGCTACAACGA TTATATAT	2682
4357	AUAAGUUU A CACCUUUA	981	TAAAGGTG GGCTAGCTACAACGA AAACTTAT	2683
4359	AAGUUUAC A CCUUUAUC	982	GATAAAGG GGCTAGCTACAACGA GTAAACTT	2684
4365	ACACCUUU A UCUUUCCA	983	TGGAAAGA GGCTAGCTACAACGA AAAGGTGT	2685
4373	AUCUUUCC A UGGGAGCC	984	GGCTCCCA GGCTAGCTACAACGA GGAAAGAT	2686

4383 GGGAGCCA G CUGCUUUU 986 AAAAGCAG GGCTAGCTACAACGA TGGCTCC 2688 4398 ACCAGGU G CUUUUUGU 987 ACAAAAAG GGCTAGCTACAACGA ACCTGGCT 2699 4399 UUUUUUUU A UAGUUUUU 988 AAAAAACA GGCTAGCTACAACGA AAAAAGCAG 2690 4399 UUUUUUUA A UAGUUUUU 999 AAAAAACA GGCTAGCTACAACGA AAAAACAC 2690 4405 UUUUUUUA A UAGUUUUU 991 AAAAAACA GGCTAGCTACAACGA CACAAAAA 461 UUUUAUUU A UAGUGCUU 991 AAAAAACA GGCTAGCTACAACGA CACAAAAA 462 UUUUUUUA A UAGUGCUU 991 AAAAAACA GGCTAGCTACAACGA TATTAAAA 2691 4410 UUUAAUAGG UUUUUUU 992 AAAAAAACA GGCTAGCTACAACGA ACTATTAA 2694 4424 UUUUUUUG A CUAACAAG 993 CTGTTTTA GGCTAGCTACAACGA ACTATTAA 2694 4424 UUUUUUUG A CUAACAAG 993 CTGTTTTA GGCTAGCTACAACGA ACTATTAA 2694 4424 UUUUUUUG A CAAAGAAG 994 CATTCTTG GGCTAGCTACAACGA ACTATTAA 2694 4424 UUUUUUUG A CAAAGAAG 995 CTGGAGTTA GGCTAGCTACAACGA ATTCTTGT 2698 4434 UUAACAAGA A UGAACAAC 995 CTGGAGTTACA GGCTAGCTACAACGA ATTCTTGT 2698 4434 UAACAAGA A UGAACAAC 995 TGGAGTTACA GGCTAGCTACAACGA ATCATTCT 2698 4434 AAAACACA A UACAAGAA 997 TATCTGGAG GGCTAGCTACAACGA ATCATTCT 2698 4434 AAAAAAAA A UAAACACA 998 TTGCACTA GGCTAGCTACAACGA ATCATTCT 2698 4444 AAAACACAA A UAGAGAAA 998 TTGCACTA GGCTAGCTACAACGA ATCATTCT 2701 4454 AUAGAGAA A UAGAGAAA 999 TTGCACTA GGCTAGCTACAACGA ATCATTCT 2701 4455 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA				Langana Garana and an maganaga	0607
4386 AGCCAGCU G CUUUUUUU 987 ACAAAAA GGCTAGCTACAACGA AGCTGGCT 2689 4393 UUCUUUUU G UGAUUUUU 988 AAAAATCA GGCTAGCTACAACGA AAAAAGCA 2690 4408 UUUUUUUU A UAGUGCUU 990 AAAAAAAA GGCTAGCTACAACGA CACAAAAA 2691 4408 UUUUAUUA A UAGUGCUU 991 AAAAAAAA GGCTAGCTACAACGA TAAAAAAA 2691 4408 UUUUAUUU A UAGUGCUU 991 AAAAAAAA GGCTAGCTACAACGA TAAAAAAA 2694 4410 UUUAUAUA G UGCUUUUU 991 AAAAAAGA GGCTAGCTACAACGA TATAAAAA 2694 4410 UUUAUAUG A CUUUUUUU 992 AAAAAAAA GGCTAGCTACAACGA ACTATTAA 2694 44110 UUUAUUU A CUUACUA 992 AAAAAAAA GGCTAGCTACAACGA ACTATTAA 2694 44124 UUUUUUUU A CUUACUA 992 CATACTTTA GGCTAGCTACAACGA ACTATTAA 2694 44128 UUUUGACUA A CAAGAAUG 993 CTTGTTAG GGCTAGCTACAACGA AAAAAAA 2695 44134 UAACAAGA A UGUAACUC 995 GAGTTACA GGCTAGCTACAACGA TATGTCATA 2694 44134 UAACAAGA A UGUAACUC 995 TAGAGTTA GGCTAGCTACAACGA TATGTCATA 2694 44136 ACCAAGAAU G UAACUCCA 995 TAGAGTTA GGCTAGCTACAACGA TATCTTCTT 2699 4444 AAACUCCAG A UAGAGAAA 998 TTTCTCTA GGCTAGCTACAACGA TACATCTT 2701 44454 AUAGAGAA A UAGUGACA 999 TACTCTGAG GGCTAGCTACAACGA TACATCTT 2701 4454 AUAGAGAA A UAGUGACA 999 TACTCTGAG GGCTAGCTACAACGA TACATCTC 2702 4454 AUAGAGAA A UAGUGACA 999 TACTCTGAG GGCTAGCTACAACGA TACTTCTC 2702 4454 AUAGAGAA A UAGUGACA 999 TACTCTGAG GGCTAGCTACAACGA TATTTCTC 2702 4454 AUAGAGAAA CACUACUG 1000 ACTTGTCA GGCTAGCTACAACGA TATTTCCC 2702 4464 AUUGACAA G UAGAGAAC 1000 ACTTGTCA GGCTAGCTACAACGA TATTTCCC 2702 4464 AUUGACAA G UAGAGAAC 1002 CTTCTCA GGCTAGCTACAACGA CACTATTT 2701 4476 AGAACACU A CUACUGU 1004 AGCAGTAG GGCTAGCTACAACGA ACTGTAT 2701 4477 AGAACACU A CUACUGU 1005 CAGTAGT GGCTAGCACACA ACGTGTTC 2706 4478 AGAACACU A CUACUGU 1005 CAGTAGT GGCTAGCACACA ACGTGTTC 2706 4479 ACACUACU G CUAAAUCC 1006 GGCTATCA GGCTACAACCA ACGTGTTC 2707 4479 ACACUACU G CUAAAUCC 1006 GGCTAGCA GGCTACAACCA ACGTGTTC 2707 4479 ACACUACU G UUACUCAG 1005 TATGCAGA GGCTAGCACACA ACGTGTTC 2707 4479 ACACUACU G UUACUCAG 1005 TATGCAGA GGCTAGCACACA ACGTGTTC 2707 4479 ACACUACU G UUACUCAG 1005 TATGCAGA GGCTAGCACACA ACGTGTTC 2707 4479 ACACUACU G UUACUCAG 1005 TATGCAGA GGCTAGCACACA ACGTGTTC 2707 4479 ACACUACU G	4379	CCAUGGGA G CCAGCUGC	985	GCAGCTGG GGCTAGCTACAACGA TCCCATGG	2687
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44446 AACUCCAG A UAGAGAAA 998 TTTCTCTA GGCTAGCACAGA CTGGAGTT 2700 4454 AUAGAGAA A UAGUGACA 999 TGTCACTA GGCTAGCTACAACGA TTCTCTAT 2701 4457 GAGAAAUA G UGACAAGU 1000 ACTTGTCA GGCTAGCTACAACGA TATTTCTC 2702 4460 AAAUAGUG A CAGUGAA 1001 TTCACTTG GGCTAGCTACAACGA CACTATTT 2703 4464 AGUGACAA G UGAAGAAC 1002 GTCTTCA GGCTAGCTACAACGA TGTCACAC 2704 4471 AGUGAAGA A CACUACUG 1003 CAGTAGTG GGCTAGCTACAACGA TGTCTCA 2705 4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA AGTGTTCT 2706 4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTGTTCT 2707 4484 ACUGCUAA 1007 CATGAGGA GGCTAGCTACAACGA AGTGATCT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA AGTGAGAT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAG AGCTAACACGA ACACGA TGAGTACACACA 2711 4500 GUUACUCAG G UGUAACAC 1010 ACACTAGA GGCTAGCTACAACGA ACTGAGAT 2713 <	4436	ACAAGAAU G UAACUCCA	996	TGGAGTTA GGCTAGCTACAACGA ATTCTTGT	2698
4454 AUAGAGAA A UAGUGACA 4457 GAGAAANUA G UGACAAGU 1000 ACTTGTCA GGCTAGCTACAACGA TTCTCTAT 2701 4460 AAAUAGUG A CAAGUGAA 1001 TTCACTTG GGCTAGCTACAACGA TATTTCTC 2702 4460 AAGUGACA G UGAAGAAC 1002 STTCTTCA GGCTAGCTACAACGA CACTATTT 2703 4464 AGUGACAA G UGAAGAAC 1002 STTCTTCA GGCTAGCTACAACGA CACTATTT 2704 4471 AGUGACAA G UGAAGAAC 1002 STTCTTCA GGCTAGCTACAACGA TCTTCACT 2705 4473 UGAAGAAC A CUACUGU 1004 AGCAGTAG GGCTAGCTACAACGA TCTTCACT 2706 4476 AGACACAU A CUGCUAAA 1005 TTTTGACG GGCTAGCTACAACGA GTTCTTCA 2707 4479 ACACCACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTGTTCT 2708 4484 ACUGCUCA A UGCUCAU 1007 CATGAGGA GGCTAGCTACAACGA AGTGTTCT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA AGTAGTTC 2709 4491 AUCCUCAU G UUACUC 1008 GAGTAACA GGCTAGCTACAACGA AGTAGGAT 2710 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ATGAGGAT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ATGAGGAT 2712 4500 GUUACUCA G UUGAGGA 1011 CTCTAACA GGCTAGCTACAACGA ATGAGGAT 2713 4501 UUAGAGAAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA ATGAGGAT 2714 4511 UUAGAGAAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA ACATGAG 2714 4522 CUUCCUAA A UCCACUCC 1015 GGAAGTAC GGCTAGCTACAACGA TTCGCTAC 4527 UAAACCCA A UGACUUCC 1016 GGAAGTAG GGCTAGCTACAACGA TTCGCTAC 4520 UACUCAGG A UGCUUCC 1016 GGAGAGAGA GGCTAGCTACAACGA TTCGCTAC 4521 UAAACCCA A UGACUUCC 1017 GGTTGGG GGCTAGCTACAACGA TTGGGAT 2719 4530 ACCCAAUG A CUUCCUG 1016 GAGGGAAG GGCTAGCTACAACGA TTGGGAT 2719 4544 CUGCUCAA A CCCCACCC 1017 GGTTGGG GGCTAGCTACAACGA TTGGGAT 2719 4550 CAACCCCC G CCACCCAC 1019 TGGGTGG GGCTAGCTACAACGA TGGGTT 4570 CACCGAGGA 1020 GTTGGTGG GGCTAGCTACAACGA TGGGTT 4571 CACCGAGGA 1020 GTTGGTGG GGCTAGCTACAACGA TGGGGTG 2721 4561 ACCUCAGG G CACGAGGA 1021 GTTGGGG GGCTAGCTACAACGA GGGGGGGG 2722 4561 ACCUCAGG G CACGAGGA 1020 GTTGGGGG GGCTAGCTACAACGA GGGGGGGG 2722 4561 ACCUCAGG G CACGAGGA 1020 GTTGGGGGGG GGCTAGCTACAACGA GGGGGGGG 2722 4570 CACGGGGG A CGAGGACA 1021 GTTGGGGGGG GGCTAGCTACAACGA GCTTGGGTG 2727	4439	AGAAUGUA A CUCCAGAU	997	ATCTGGAG GGCTAGCTACAACGA TACATTCT	2699
4457 GAGAAAUA G UGACAAGU 1000 ACTTGTCA GGCTAGCTACAACGA TATTTCTC 2702 4460 AAAUAGUG A CAAGUGAA 1001 TTCACTTG GGCTAGCTACAACGA CACTATTT 2703 4464 AGUGACAA G UGAAGAAC 1002 GTTCTTCA GGCTAGCTACAACGA TCTCTACT 2704 4471 AGUGACAA G UGAAGAAC 1002 GTTCTTCA GGCTAGCTACAACGA TCTTCACT 2704 4473 UGAAGAAC A CACUACUG 1003 CAGTAGTG GGCTAGCTACAACGA TCTTCACT 2705 4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA AGTTCTCA 2706 4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA AGTTGTCT 2707 4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTGTTCT 2707 4479 ACACUACU A UUCUCAUG 1007 CAGGAGGA GGCTAGCTACAACGA AGTAGTT 2708 4484 ACUGCUAA A UCCUCAUG 1007 CAGGAGGA GGCTAGCTACAACGA AGTAGTT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTTAGA GGCTAGCTACAACGA ATGAGGAT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA ATGAGGAT 2711 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA AACATGAG 2712 4500 GUUACUCA G UUAGAGA 1010 ACACTGAG GGCTAGCTACAACGA ACATGAG 2712 4501 UACUCAGU G UUAGAGAA 1012 TTCTCTAAC GGCTAGCTACAACGA ACATGAG 2712 4502 UACUCAGU G UUAGAGAA 1012 TTCTCTAA GGCTAGCTACAACGA ACTGAGTA 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA TTCGTCAA 2715 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTCGTCAA 2716 4527 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTCGTCAA 2716 4528 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTGGGTTA 2717 4530 ACCCAAUG A CUUCCUG 1016 CAGGGAG GGCTAGCTACAACGA TGGGTTA 2718 4538 ACUUCCUA A CCCCACC 1018 GGCAGGTCA GGCTAGCTACAACGA AGGGAAGT 2719 4530 CACCACCC G CCCCCCC 1018 GGCAGGTG GGCTAGCTACAACGA TGGGTTA 2721 4553 CCCCGGCC A CCUCCAAC 1019 TGAGGTGG GGCTAGCTACAACGA GGGGGGG 2720 4550 CAACCCCC G CCACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA GGGGGGG 2722 4551 ACCUCAGG CAGGACCA 1022 GTCTCGGG GGCTAGCTACAACGA GGGGGGG 2722 4553 CCCCGGCC A CCUCAGGG 1021 TGAGGGGGG GGCTAGCTACAACGA GGGGGGG 2722 4550 CAGGGCAG A CCAGUGAU 1024 CAAACTGG GGCTAGCTACAACGA GGCGGGGG 2722 4551 ACCUCAGG CAGGAGCA 1022 TGAGGGGGGGGGGGAGCTACAACGA GGCGGGGGG 2722 4552 CAGGGGAG A CCAGUGAU 1025 GTGAGCTAGAGAGA GCTACACAG GCTA	4446	AACUCCAG A UAGAGAAA	998	TTTCTCTA GGCTAGCTACAACGA CTGGAGTT	2700
4460 AAAUAGUG A CAAGUGAA 1001 TTCACTTG GGCTAGCTACAACGA CACTATTT 2703 4464 AGUGACAA G UGAAGAAC 1002 STICTICA GGCTAGCTACAACGA TTGTCACT 2704 4471 AGUGAAGA A CACUACUG 1003 CAGTAGTG GGCTAGCTACAACGA TTCTCACT 2705 4473 UGAAGAAC A CUACUGCU 1004 AGCAGTIAG GGCTAGCTACAACGA TCTTCACT 2705 4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA ACTCTCTC 2707 4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTGTTCT 2707 4479 ACACUACU G CUAAAUCC 1007 CATGAGGA GGCTAGCTACAACGA AGTGTTCT 2709 4484 ACUGCUAA UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA TTAGCAGT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA TTAGCAGT 2709 4491 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA TTAGCAGT 2709 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA ACATGAGT 2710 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA AACATGAG 2712 4500 GUUACUCAG UGUUAGAG 1011 CTCTAACA GGCTAGCTACAACGA ACATGAGT 2713 4501 UACUCAGU G UUAGAGA 1011 CTCTAACA GGCTAGCTACAACGA ACATGAGT 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGA GGCTAGCTACAACGA TCTGAGTA 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGA GGCTAGCTACAACGA TTCTCTAA 2715 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTCGTAA 2715 4523 ACCCAAUG A UGCCUGU 1015 GGAAGTCA GGCTAGCTACAACGA TTCGTAA 2716 4530 ACCCAAUG A CUUCCUG 1016 GGAAGTCA GGCTAGCTACAACGA TTGGGTTTA 2717 4530 ACCCAAUG A CUUCCUG 1016 GGAAGTCA GGCTAGCTACAACGA TTGGGTTA 2719 4544 CUUCCUAA C CCCCCGCC 1018 GGCAGGTAGCTACAACGA CATTGGGT 2719 4554 CUUCCUCA C CUCCAACC 1017 GGTTGGAG GGCTAGCTACAACGA AGGGAAGT 2719 4555 CAACCCCC G CCACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA GGGGGGG 2722 4550 CAACCCCC G CCACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA CTGAGGT 2724 4551 CCCCGGC A CCUCAGGG 1022 GTCTGCGG GGCTAGCTACAACGA GGGGGGG 2722 4552 CAGGAGCA UUUGAUG 1024 CAAACTGG GGCTAGCTACAACGA CCTCAGGT 2721 4553 CCCCAGGC A CCUCAGGG 1022 GTCTCGCG GGCTAGCTACAACGA GGGGGGG 2722 4550 CAACCCCC G CCACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA GGGGGGG 2722 4550 CACCCAAUG UUGAGGAG 1022 GTCCTCGG GGCTAGCTACAACGA GGCGGGGG 2722 4550 CACGAGGA A CCAGAGAG 1023 TGGTCTG GGCTAGCTACAACGA GCCCTCGG 2731 45	4454	AUAGAGAA A UAGUGACA	999	TGTCACTA GGCTAGCTACAACGA TTCTCTAT	2701
4464 AGUGACAA G UGAAGAAC 1002 GTTCTTCA GGCTAGCTACAACGA TTGTCACT 2704 4471 AGUGAAGA A CACUACUG 1003 CAGTAGTG GGCTAGCTACAACGA TTCTCACT 2705 4473 UGAAGAAC A CUACUGCU 1004 AGCAGTAAG GGCTAGCTACAACGA TCTTCAC 7705 4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA AGTTCTCA 7706 4477 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTTCTCT 7707 4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTGTGT 2709 4484 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA TTAGCAGT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA TTAGCAGT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA ATGAGGAT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ATGAGGAT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ACACTGAG 2712 4500 GUUACUCA G UGUUAGAGA 1011 CTCTAACA GGCTAGCTACAACGA ACCACTGAG 2713 4502 UACUCAGU G UUAGAGAA 1012 TTCTCTAA GGCTAGCTACAACGA ACCACTGAG 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA TTCTCTAA 2715 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTCTCTAA 2716 4527 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTCTCTAA 2717 4530 ACCCAAUG A CUUCCCU 1016 CAGGGAAG GGCTAGCTACAACGA TGGGTTA 2717 4530 ACCCAAUG A CUUCCCU 1016 CAGGGAAG GGCTAGCTACAACGA TGGGTTA 2719 4544 CUUCCCUA A CCCCCGC 1017 GGTTGGAG GGCTAGCTACAACGA TGGGTTA 2719 4554 CUUCCUCA A CCCCCGC 1017 GGTTGGAG GGCTAGCTACAACGA TGGGTTA 2719 4554 CUUCCUCA CCCCCC 1017 GGTTGGAG GGCTAGCTACAACGA TGGGTTG 2721 4555 CCCCCCGC A CCUCAGC 102 GGTTGGTACAACGA GGGGGGG 2722 4550 CAACCCCC G CCACCUCA 1019 TGAGGTG GGCTAGCTACAACGA GGGGGGG 2722 4551 CCCCCGGC A CCUCAGG 1021 CCTGGGG GGCTAGCTACAACGA GGGGGGG 2722 4553 CCCCCGGC A CCUCAGG 1021 CCTGGGG GGCTAGCTACAACGA GGGGGGG 2722 4553 CCCCCGGC A CCUCAGG 1021 CCTGGGG GGCTAGCTACAACGA GGGGGGG 2722 4554 CCCCCGGC A CCUCAGGG 1021 CCTGCGG GGCTAGCTACAACGA GGGGGGG 2722 4557 CAGGCAGG A CCACUCA 1029 GTCTGGG GGCTAGCTACAACGA GGCGGGG 2722 4557 CACCCAGG A CCACUCA 1022 GTCTGGG GGCTAGCTACAACGA CCTGAGGT 2724 4559 CAGGGGG A CCGAGGC 1022 GTCCTCAA GGCTAGCTACAACGA CCTGCGGG 2725 4570 CAGGGAG A CCAGU	4457	GAGAAAUA G UGACAAGU	1000	ACTTGTCA GGCTAGCTACAACGA TATTTCTC	2702
4471 AGUGAAGA A CACUACUG 1003 CAGTAGTG GGCTAGCTACAACGA TCTTCACT 2705 4473 UGAAGAAC A CUACUGCU 1004 AGCAGTTAG GGCTAGCTACAACGA GTTCTTCA 2706 4476 AGAACACU A CUGCUAAA 1005 TTTTAGCAG GGCTAGCTACAACGA AGTTGTTCT 2707 4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTTGTTCT 2707 4484 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA AGTAGTGT 2708 4484 ACUGCUCAU G UUACUCCAU 1007 CATGAGGA GGCTAGCTACAACGA TTAGCAGT 2709 4490 AAAUCCUC A UGUUACUCC 1008 GAGTAACA GGCTAGCTACAACGA ATGAGGAT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTTAA GGCTAGCTACAACGA ATGAGGAT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA AACATGAG 2712 4500 GUUACUCAG G UUAGAGA 1011 CTCTAACA GGCTAGCTACAACGA ACATGAG 2712 4500 UACUCAGU G UUAGAGAA 1012 TTCTCTAA GGCTAGCTACAACGA ACATGAG 2712 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA TGAGTAAC 2713 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTAGGAAG 2716 4527 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTAGGAAG 2716 4530 ACCCAAUGA CUCCCUG 1016 GGAAGTCA GGCTAGCTACAACGA TTAGGAAG 2716 4538 ACUUCCCU G CUCCAACC 1017 GGTTGAG GGCTAGCTACAACGA TGGGTTTA 2717 4530 ACCCAAUGA CUCCCUG 1016 GGAGGTCA GGCTAGCTACAACGA TGGGTTA 2719 4544 CUGCUCCA A CCCCGCGC 1018 GGCGGGGG GGCTAGCTACAACGA TGGGGTTA 2719 4553 CCCCCGCC A CCUCCAAC 1017 GGTTGAG GGCTAGCTACAACGA TGGGGTTG 2721 4553 CCCCCGCC A CCUCCAG 1019 GGCGGGGG GGCTAGCTACAACGA TGGGGCGG 2720 4550 CAACCCC G CCACCUC 1019 GGCGGGGG GGCTAGCTACAACGA TGGGGCGG 2720 4551 ACCUCAGG G CACGCAGG 1021 CCCTGGAG GGCTAGCTACAACGA GGCGGGGG 2722 4553 CCCCGGCC A CUCCAGGG 1020 CCCTGAGG GGCTAGCTACAACGA CCTGAGGT 2725 4553 CCCCGCGC A CUCAGGG 1020 CCCTGAGG GGCTAGCTACAACGA CCTGAGGT 2725 4554 CAGGACCA GUUUGAUG 1024 CAAACTGG GGCTAGCTACAACGA CCTGAGGT 2725 4555 CAACCCC G CACCUCA 1019 TGAGGTG GGCTAGCTACAACGA CCTGAGGT 2726 4557 CACGCAGG A CGCAGGAC 1022 GTCCTGCG GGCTAGCTACAACGA CCTGAGGT 2726 4557 CAGGACCA GUUUGAUG 1025 CAATCAAG GGCTAGCTACAACGA CCTGAGGT 2726 4557 CACGCAGG A CGCAGUGU 1027 CAGTGCG GGCTAGCTACAACGA CCTGCGTG 2727 4559 CACGAGGA G CAGGUUG 1027 CAGTGCG GGCTAGCTACAACGA CCTGC	4460	AAAUAGUG A CAAGUGAA	1001	TTCACTTG GGCTAGCTACAACGA CACTATTT	2703
4473 UGAAGAAC A CUACUGCU 1004 AGCAGTAG GGCTAGCTACAACGA GTTCTTCA 2706 4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA AGTGTTCT 2707 4479 ACACUACU G CUANAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTGTTCT 2708 4484 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA ATTAGTGT 2708 4484 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA TTAGCAGT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA ATGAGGT 2709 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA ATGAGGAT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ATGAGGAT 2711 4500 GUUACUCA G UGUUAGAG 1011 CTCTAACA GGCTAGCTACAACGA ACATGAG 2712 4500 GUUACUCA G UGUUAGAG 1011 CTCTAACA GGCTAGCTACAACGA ACATGAG 2713 4501 UACUCAGU G UUAGAGAA 1012 TTCTCTAA GGCTAGCTACAACGA ACATGAG 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA ACTGAGTA 2714 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTCTCTAA 2715 4522 CUUCCUAA A CUCACUG 1015 GGAAGTCA GGCTAGCTACAACGA TTGGGAT 2716 4524 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTGGGAT 2717 4538 ACUUCCCU G CUCCAACC 1017 GGTTGGAG GGCTAGCTACAACGA CATTGGGT 2718 4538 ACUUCCCU G CUCCAACC 1017 GGTTGGAG GGCTAGCTACAACGA AGGGAAGT 2719 4544 CUGCUCCA A CCCCCGCC 1018 GGCGGGG GGCTAGCTACAACGA AGGGAAGT 2719 4550 CAACCCCC G CCACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA GGGGAGG 2720 4550 CAACCCCC G CCACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA GGGGGGT 2721 4551 ACCUCAGG G CAGCAGGA 1021 CCTGAGG GGCTAGCTACAACGA GGCGGGG 2722 4551 ACCUCAGG G CAGCACGA 1021 CCTGAGG GGCTAGCTACAACGA GGCGGGG 2722 4563 CUCAGGGC A CGCAGGAG 1021 CCTGAGG GGCTAGCTACAACGA GGCGGGG 2722 4563 CUCAGGGC A CGCAGGAG 1021 CCTGAGG GGCTAGCTACAACGA GGCGGGGG 2722 4563 CUCAGGGC A CGCAGGAG 1022 CCTGAGG GGCTAGCTACAACGA GGCGGGG 2722 4565 CAGGACCA GUUGAUUG 1024 GTCCTGA GGCTAGCTACAACGA GGCGGGG 2722 4567 ACCUCAGG C CAGGACCA 1023 TGGTCCTG GGCTAGCTACAACGA GGCGGGG 2722 4569 CUCAGGGC A CGCAGAG 1023 TGGTCCTG GGCTAGCTACAACGA GCCTGCAGG 2726 4579 CACGAGA A CCAGUAUC 1029 GTCAGGGG GGCTAGCTACAACGA AGCTCCT 2730 4599 CACGAGA A CAGGACCA 1023 TGGTCCTG GGCTAGCTACAACGA AGCTCCT 2730 4590	4464	AGUGACAA G UGAAGAAC	1002	GTTCTTCA GGCTAGCTACAACGA TTGTCACT	2704
4476 AGAACACU A CUGCUAAA 1005 TTTAGCAG GGCTAGCTACAACGA AGTGTCT 2707 4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTAGTGT 2708 4444 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA ATTAGCAGT 2709 4490 AAAUCCUC A UGUUACUC 1008 GGATTACA GGCTAGCTACAACGA TTAGCAGT 2709 4490 AAAUCCUC A UGUUACUC 1008 GGATAACA GGCTAGCTACAACGA ATGAGGATT 2710 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ATGAGGATT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ACATGAG 2712 4500 GUUACUCA G UGUUAGAG 1011 CTCTAACA GGCTAGCTACAACGA ACATGAG 2713 4502 UACUCAGU G UUAGAGA 1012 TTCTCTAA GGCTAGCTACAACGA ACTGAGTA 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGAAGGA GGCTAGCTACAACGA ACTGAGTA 2714 4521 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTCCTAA 2715 4527 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTCGTAA 2717 4530 ACCCAAUG A CUCCAGCC 1016 GGAAGTCA GGCTAGCTACAACGA TTGGGAG 2716 4538 ACUUCCCU G CUCCAACC 1017 GGTTGGAG GGCTAGCTACAACGA CATTGGGT 2718 4544 CUGCUCCA CCCCCCC 1018 GGCGGGG GGCTAGCTACAACGA AGGGAAGT 2719 4553 CCCCCGCC C CACCUCCA 1019 TGAGGTG GGCTAGCTACAACGA AGGGAAGT 2720 4551 ACCUCAGG C CACCUCCA 1019 TGAGGTG GGCTAGCTACAACGA GGGGAGT 2720 4553 CCCCCGCC A CCUCAGGG 1020 CCCTGAGG GGCTAGCTACAACGA CCTGAGGT 2723 4553 CCCCCGGC A CCUCAGGG 1021 CCTGCGTG GGCTAGCTACAACGA GGGGGTTG 2724 4554 ACUCAGG C CAGCACGA 1022 GTCCTGCG GGCTAGCTACAACGA GCCTGAGGT 2724 4555 CCCCGGC A CCUCAGGG 1021 CCTGCGTG GGCTAGCTACAACGA GCCGTGGG 2722 4551 ACCUCAGG C CAGCACGA 1022 GTCCTCGG GGCTAGCTACAACGA GCCCTGAGGT 2724 4565 CAGGGCAC G CAGGACCA 1022 GTCCTGG GGCTAGCTACAACGA CCTGAGGT 2724 4565 CAGGGCAC G CAGGACCA 1022 GTCCTGG GGCTAGCTACAACGA CCTGAGGT 2724 4565 CAGGGCAC G CAGGACCA 1022 GTCCTGG GGCTAGCTACAACGA CCTGCGTG 2724 4566 CACCCAGG A CCACUUG 1022 GTCCTG GGCTAGCTACAACGA CCTGCGTG 2724 4567 CAUGAGG A CCACUUG 1022 GTCCTG GGCTAGCTACAACGA CCTGCGTG 2724 4569 CAGGACCA G UUGAUCA 1022 GTCCTG GGCTAGCTACAACGA CCTGCGTG 2726 4579 CCAGUUGA UUGAGGA 1026 CTCCTCAA GGCTAGCTACAACGA CAACTGG 2731 4596 CUGACUG A UCACCCAA 1030 TTGGGTG GGCTAGCTACAACGA CAACTGG 2732 4599 GA	4471	AGUGAAGA A CACUACUG	1003	CAGTAGTG GGCTAGCTACAACGA TCTTCACT	2705
4479 ACACUACU G CUAAAUCC 1006 GGATTTAG GGCTAGCTACAACGA AGTAGTGT 2708 4484 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA TTAGCAGT 2709 4480 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA TTAGCAGT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA AGGATTT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTGAGTAA GGCTAGCTACAACGA AACATGAG 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA AACATGAG 2712 4500 GUUACUCA G UGUUAGAG 1011 CTCTAACA GGCTAGCTACAACGA AACATGAG 2712 4500 UACUCAGU G UUAGAGA 1012 TTCTCTAA GGCTAGCTACAACGA ACTGAGTA 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA ACTGAGTA 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA TTCTCTAA 2715 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTAGGAGA 2716 4527 UAAACCCA A UGACUUCC 1015 GGAAGTCA GGCTAGCTACAACGA TTAGGAGA 2716 4530 ACCCAAUG A CUUCCCUG 1016 CAGGGAAG GGCTAGCTACAACGA TGGGTTTA 2717 4530 ACCCAAUG A CUUCCCUG 1016 CAGGGAAG GGCTAGCTACAACGA AGGGAAGT 2719 4544 CUGCUCCA A CCCCCGCC 1018 GGCGGGG GGCTAGCTACAACGA AGGGAAGT 2719 4544 CUGCUCCA A CCCCCGCC 1018 GGCGGGG GGCTAGCTACAACGA AGGGAAGT 2720 4553 CCCCCGCC A CCCCAGCG 1019 TGAGGTGG GGCTAGCTACAACGA GGGGGGT 2721 4553 CCCCCGCC A CCCCAGGG 1020 CCCTGAGG GGCTAGCTACAACGA GGGGGGT 2721 4554 CUAGGGC A CCCCAGCG 1021 TGAGGTGG GGCTAGCTACAACGA GGCGGGG 2722 4561 ACCUCAGG CACCUCA 1019 TGAGGTGG GGCTAGCTACAACGA GGCGGGGG 2722 4561 ACCUCAGG CAGCACG 1022 GTCCTGGG GGCTAGCTACAACGA GCCGTGAG 2724 4563 CUCAGGGC A CCGCAGGA 1022 GTCCTGG GGCTAGCTACAACGA GCCGTGAG 2724 4565 CAGGGCAC G CUUGAUGA 1022 GTCCTGG GGCTAGCTACAACGA GCCGTGAG 2724 4565 CAGGGCAC G CAGGACCA 1023 TGGTCCTG GGCTAGCTACAACGA CCTGAGGT 2724 4566 CCCCAGGG A CCAGUUUG 1024 CAAACTGG GGCTAGCTACAACGA CCTGCCTG 2725 4574 CAGGACCA G UUGAUUG 1025 CAATCAAA GGCTAGCTACAACGA CCTGCCTG 2726 4574 CAGGACCA CUGAUCC 1029 GTCATCA GGCTAGCTACAACGA CCTGCCTG 2726 4579 CCAGUUUG A UUGAGGAG 1021 CCTGCTG GGCTAGCTACAACGA CCTGCCTG 2726 4590 GAGGACU G CACCACU G 1027 CAATCAAA GGCTAGCTACAACGA CCTGCCTG 2730 4590 GAGGACU G CACCACC 1029 GTGATCAG GGCTAGCTACAACGA CCAGCTCC 2730	4473	UGAAGAAC A CUACUGCU	1004	AGCAGTAG GGCTAGCTACAACGA GTTCTTCA	2706
4484 ACUGCUAA A UCCUCAUG 1007 CATGAGGA GGCTAGCTACAACGA TTAGCACT 2709 4490 AAAUCCUC A UGUUACUC 1008 GAGTAACA GGCTAGCTACAACGA GAGGATT 2710 4492 AUCCUCAU G UUACUCAG 1009 CTCAGTAA GGCTAGCTACAACGA ATGAGGAT 2711 4495 CUCAUGUU A CUCAGUGU 1010 ACACTGAG GGCTAGCTACAACGA ACGTAGCTACACCA 2712 4500 GUUACUCAG U GUUAGAGA 1011 CTCTAACA GGCTAGCTACAACGA ACGA TGAGTAAC 2713 4502 UACUCAGU G UUAGAGAA 1012 TTCTCTAA GGCTAGCTACAACGA ACTGAGTA 2714 4511 UUAGAGAA A UCCUUCCU 1013 AGGAAGGA GGCTAGCTACAACGA TCTGAGTA 2716 4522 CUUCCUAA A CCCAAUGA 1014 TCATTGGG GGCTAGCTACAACGA TTAGGAAC 2716 4530 ACCCAAUG A CUUCCCUG 1015 GGAAGTCA GGCTAGCTACAACGA TGGGTTTA 2718 4538 ACUUCCCU A CUCCAACC 1017 GGTTGGGA GGCTAGCTACAACGA AGGAACACACACACACACACACACACACACAC	4476	AGAACACU A CUGCUAAA	1005	TTTAGCAG GGCTAGCTACAACGA AGTGTTCT	2707
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4561 ACCUCAGG G CACGCAGG 1021 CCTGCGTG GGCTAGCTACAACGA CCTGAGGT 2723 4563 CUCAGGGC A CGCAGGAC 1022 GTCCTGCG GGCTAGCTACAACGA GCCCTGAG 2724 4565 CAGGGCAC G CAGGACCA 1023 TGGTCCTG GGCTAGCTACAACGA GTGCCCTG 2725 4570 CACGCAGG A CCAGUUUG 1024 CAAACTGG GGCTAGCTACAACGA CCTGCGTG 2726 4574 CAGGACCA G UUUGAUUG 1025 CAATCAAA GGCTAGCTACAACGA TGGTCCTG 2727 4579 CCAGUUUG A UUGAGGAG 1026 CTCCTCAA GGCTAGCTACAACGA CAAACTGG 2728 4587 AUUGAGGA G CUGCACUG 1027 CAGTGCAG GGCTAGCTACAACGA TCCTCAAT 2729 4590 GAGGAGCU G CACUGAUC 1028 GATCAGTG GGCTAGCTACAACGA AGCTCCTC 2730 4592 GGAGCUGC A CUGAUCAC 1029 GTGATCAG GGCTAGCTACAACGA GCAGCTCC 2731 4596 CUGCACUG A UCACCCAA 1030 TTGGGTGA GGCTAGCTACAACGA CAGTGCAG 2732 4599 CACUGAUC A CCCAAUGC 1031 GCATTGGG GGCTAGCTACAACGA GATCAGTG 2733 4604 AUCACCCA A UGCAUCAC 1032 GTGATGCA GGCTAGCTACAACGA TGGGTGAT 2734 4606 CACCCAAU G CAUCACGU 1033 ACGTGATG GGCTAGCTACAACGA ATTGGGTG 2735 4608 CCCAAUGC A UCACGUAC 1034 GTACGTGA GGCTAGCTACAACGA GATTGGGT 2736 4611 AAUGCAUC A CGUACCCC 1035 GGGGTAGC GGCTAGCTACAACGA GATTGGGT 2736	4550	CAACCCCC G CCACCUCA	1019	TGAGGTGG GGCTAGCTACAACGA GGGGGTTG	2721
4563 CUCAGGC A CGCAGGAC 1022 GTCCTGCG GGCTAGCTACAACGA GCCCTGAG 2724 4565 CAGGGCAC G CAGGACCA 1023 TGGTCCTG GGCTAGCTACAACGA GTGCCCTG 2725 4570 CACGCAGG A CCAGUUUG 1024 CAAACTGG GGCTAGCTACAACGA CCTGCGTG 2726 4574 CAGGACCA G UUUGAUUG 1025 CAATCAAA GGCTAGCTACAACGA TGGTCCTG 2727 4579 CCAGUUUG A UUGAGGAG 1026 CTCCTCAA GGCTAGCTACAACGA CAAACTGG 2728 4587 AUUGAGGA G CUGCACUG 1027 CAGTGCAG GGCTAGCTACAACGA TCCTCAAT 2729 4590 GAGGAGCU G CACUGAUC 1028 GATCAGTG GGCTAGCTACAACGA AGCTCCTC 2730 4592 GGAGCUGC A CUGAUCAC 1029 GTGATCAG GGCTAGCTACAACGA GCAGCTCC 2731 4596 CUGCACUG A UCACCCAA 1030 TTGGGTGA GGCTAGCTACAACGA CAGTGCAG 2732 4599 CACUGAUC A CCCAAUGC 1031 GCATTGGG GGCTAGCTACAACGA GATCAGTG 2733 4604 AUCACCCA A UGCAUCAC 1032 GTGATGCA GGCTAGCTACAACGA TGGGTGAT 2734 4606 CACCCAAU G CAUCACGU 1033 ACGTGATG GGCTAGCTACAACGA ATTGGGTG 2735 4608 CCCAAUGC A UCACGUAC 1034 GTACGTGA GGCTAGCTACAACGA GATTGGGT 2736 4611 AAUGCAUC A CGUACCCC 1035 GGGGTAGC GGCTAGCTACAACGA GATTGGGT 2736	4553	CCCCGCC A CCUCAGGG	1020	CCCTGAGG GGCTAGCTACAACGA GGCGGGGG	2722
4565 CAGGGCAC G CAGGACCA 1023 TGGTCCTG GGCTAGCTACAACGA GTGCCCTG 2725 4570 CACGCAGG A CCAGUUUG 1024 CAAACTGG GGCTAGCTACAACGA CCTGCGTG 2726 4574 CAGGACCA G UUUGAUUG 1025 CAATCAAA GGCTAGCTACAACGA TGGTCCTG 2727 4579 CCAGUUUG A UUGAGGAG 1026 CTCCTCAA GGCTAGCTACAACGA CAAACTGG 2728 4587 AUUGAGGA G CUGCACUG 1027 CAGTGCAG GGCTAGCTACAACGA TCCTCAAT 2729 4590 GAGGAGCU G CACUGAUC 1028 GATCAGTG GGCTAGCTACAACGA AGCTCCTC 2730 4592 GGAGCUGC A CUGAUCAC 1029 GTGATCAG GGCTAGCTACAACGA GCAGCTCC 2731 4596 CUGCACUG A UCACCCAA 1030 TTGGGTGA GGCTAGCTACAACGA CAGTGCAG 2732 4599 CACUGAUC A CCCAAUGC 1031 GCATTGGG GGCTAGCTACAACGA GATCAGTG 2733 4604 AUCACCCA A UGCAUCAC 1032 GTGATGCA GGCTAGCTACAACGA TGGGTGAT 2734 4606 CACCCAAU G CAUCACGU 1033 ACGTGATG GGCTAGCTACAACGA ATTGGGTG 2735 4608 CCCAAUGC A UCACGUAC 1034 GTACGTGA GGCTAGCTACAACGA GATTGGG 2736 4611 AAUGCAUC A CGUACCCC 1035 GGGGTAGC GGCTAGCTACAACGA GATGCATT 2737	4561	ACCUCAGG G CACGCAGG	1021	CCTGCGTG GGCTAGCTACAACGA CCTGAGGT	2723
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4579 CCAGUUUG A UUGAGGAG 1026 CTCCTCAA GGCTAGCTACAACGA CAAACTGG 2728 4587 AUUGAGGA G CUGCACUG 1027 CAGTGCAG GGCTAGCTACAACGA TCCTCAAT 2729 4590 GAGGAGCU G CACUGAUC 1028 GATCAGTG GGCTAGCTACAACGA AGCTCCTC 2730 4592 GGAGCUGC A CUGAUCAC 1029 GTGATCAG GGCTAGCTACAACGA GCAGCTCC 2731 4596 CUGCACUG A UCACCCAA 1030 TTGGGTGA GGCTAGCTACAACGA CAGTGCAG 2732 4599 CACUGAUC A CCCAAUGC 1031 GCATTGGG GGCTAGCTACAACGA GATCAGTG 2733 4604 AUCACCCA A UGCAUCAC 1032 GTGATGCA GGCTAGCTACAACGA TGGGTGAT 2734 4606 CACCCAAU G CAUCACGU 1033 ACGTGATG GGCTAGCTACAACGA ATTGGGTG 2735 4608 CCCAAUGC A UCACGUAC 1034 GTACGTGA GGCTAGCTACAACGA GCATTGGG 2736 4611 AAUGCAUC A CGUACCCC 1035 GGGGTACG GGCTAGCTACAACGA GATGCATT 2737	4570	CACGCAGG A CCAGUUUG	1024	CAAACTGG GGCTAGCTACAACGA CCTGCGTG	2726
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4611 AAUGCAUC A CGUACCCC 1035 GGGGTACG GGCTAGCTACAACGA GATGCATT 2737	4608	CCCAAUGC A UCACGUAC			
	4611	AAUGCAUC A CGUACCCC	1035		
	4613	UGCAUCAC G UACCCCAC	1036	GTGGGGTA GGCTAGCTACAACGA GTGATGCA	

4615	CAUCACGU A CCCCACUG	1037	CAGTGGGG GGCTAGCTACAACGA ACGTGATG	2739
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4625	CCCACUGG G CCAGCCCU	1039	AGGGCTGG GGCTAGCTACAACGA CCAGTGGG	2741
4629	CUGGGCCA G CCCUGCAG	1040	CTGCAGGG GGCTAGCTACAACGA TGGCCCAG	2742
4634	CCAGCCCU G CAGCCCAA	1041	TTGGGCTG GGCTAGCTACAACGA AGGGCTGG	2743
4637	GCCCUGCA G CCCAAAAC	1042	GTTTTGGG GGCTAGCTACAACGA TGCAGGGC	2744
4644	AGCCCAAA A CCCAGGGC	1043	GCCCTGGG GGCTAGCTACAACGA TTTGGGCT	2745
4651	AACCCAGG G CAACAAGC	1044	GCTTGTTG GGCTAGCTACAACGA CCTGGGTT	2746
4654	CCAGGGCA A CAAGCCCG	1045	CGGGCTTG GGCTAGCTACAACGA TGCCCTGG	2747
4658	GGCAACAA G CCCGUUAG	1046	CTAACGGG GGCTAGCTACAACGA TTGTTGCC	2748
4662	ACAAGCCC G UUAGCCCC	1047	GGGGCTAA GGCTAGCTACAACGA GGGCTTGT	2749
4666	GCCCGUUA G CCCCAGGG	1048	CCCTGGGG GGCTAGCTACAACGA TAACGGGC	2750
4676	CCCAGGGG A UCACUGGC	1049	GCCAGTGA GGCTAGCTACAACGA CCCCTGGG	2751
4679	AGGGGAUC A CUGGCUGG	1050	CCAGCCAG GGCTAGCTACAACGA GATCCCCT	2752
4683	GAUCACUG G CUGGCCUG	1051	CAGGCCAG GGCTAGCTACAACGA CAGTGATC	2753
4687	ACUGGCUG G CCUGAGCA	1052	TGCTCAGG GGCTAGCTACAACGA CAGCCAGT	2754
4693	UGGCCUGA G CAACAUCU	1053	AGATGTTG GGCTAGCTACAACGA TCAGGCCA	2755
4696	CCUGAGCA A CAUCUCGG	1054	CCGAGATG GGCTAGCTACAACGA TGCTCAGG	2756
4698	UGAGCAAC A UCUCGGGA	1055	TCCCGAGA GGCTAGCTACAACGA GTTGCTCA	2757
4707	UCUCGGGA G UCCUCUAG	1056	CTAGAGGA GGCTAGCTACAACGA TCCCGAGA	2758
4715	GUCCUCUA G CAGGCCUA	1057	TAGGCCTG GGCTAGCTACAACGA TAGAGGAC	2759
4719	UCUAGCAG G CCUAAGAC	1058	GTCTTAGG GGCTAGCTACAACGA CTGCTAGA	2760
4726	GGCCUAAG A CAUGUGAG	1059	CTCACATG GGCTAGCTACAACGA CTTAGGCC	2761
4728	CCUAAGAC A UGUGAGGA	1060	TCCTCACA GGCTAGCTACAACGA GTCTTAGG	2762
4730	UAAGACAU G UGAGGAGG	1061	CCTCCTCA GGCTAGCTACAACGA ATGTCTTA	2763
4752	GAAAAAA G CAAAAAGC	1062	GCTTTTTG GGCTAGCTACAACGA TTTTTTTC	2764
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4777	AAAGAGAA A CCGGGAGA	1064	TCTCCCGG GGCTAGCTACAACGA TTCTCTTT	2766
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4790	GAGAAGGC A UGAGAAAG	1066	CTTTCTCA GGCTAGCTACAACGA GCCTTCTC	2768
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4811	UGAGACGC A CCAUGUGG	1070	CCACATGG GGCTAGCTACAACGA GCGTCTCA	2772
4814	GACGCACC A UGUGGGCA	1071	TGCCCACA GGCTAGCTACAACGA GGTGCGTC	2773
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4820	CCAUGUGG G CACGGAGG	1073	CCTCCGTG GGCTAGCTACAACGA CCACATGG	2775
4822	AUGUGGGC A CGGAGGGG	1074	CCCCTCCG GGCTAGCTACAACGA GCCCACAT	2776
4832	GGAGGGGG A CGGGGCUC	1075	GAGCCCCG GGCTAGCTACAACGA CCCCCTCC	2777
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4845	GCUCAGCA A UGCCAUUU	1078	AAATGGCA GGCTAGCTACAACGA TGCTGAGC	2780
4847	UCAGCAAU G CCAUUUCA	1079	TGAAATGG GGCTAGCTACAACGA ATTGCTGA	2781
4850	GCAAUGCC A UUUCAGUG	1080	CACTGAAA GGCTAGCTACAACGA GGCATTGC	2782
4856	CCAUUUCA G UGGCUUCC	1081	GGAAGCCA GGCTAGCTACAACGA TGAAATGG	2783
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4867	GCUUCCCA G CUCUGACC	1083	GGTCAGAG GGCTAGCTACAACGA TGGGAAGC	2785
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4881	ACCCUUCU A CAUUUGAG	1085	CTCAAATG GGCTAGCTACAACGA AGAAGGGT	2787
4883	CCUUCUAC A UUUGAGGG	1086	CCCTCAAA GGCTAGCTACAACGA GTAGAAGG	2788
4891	AUUUGAGG G CCCAGCCA	1087	TGGCTGGG GGCTAGCTACAACGA CCTCAAAT	2789
4896	AGGGCCCA G CCAGGAGC	1088	GCTCCTGG GGCTAGCTACAACGA TGGGCCCT	2790
			GOLOGIAGOLACAACGA IGGGCCCI	2130

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4911	GCAGAUGG A CAGCGAUG	1091	CATCGCTG GGCTAGCTACAACGA CCATCTGC 2793	
4914	GAUGGACA G CGAUGAGG	1092	CCTCATCG GGCTAGCTACAACGA TGTCCATC 2794	
4917	GGACAGCG A UGAGGGGA	1093	TCCCCTCA GGCTAGCTACAACGA CGCTGTCC 2795	_
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4936	UUUUCUGG A UUCUGGGA	1096	TCCCAGAA GGCTAGCTACAACGA CCAGAAAA 2798	
4946	UCUGGGAG G CAAGAAAA	1097	TTTTCTTG GGCTAGCTACAACGA CTCCCAGA 2799	
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5022	CUAUGUCC A UUCUCAUU	1111	AATGAGAA GGCTAGCTACAACGA GGACATAG 2813	
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5035	CAUUCGUG G CAUGUUUU	1114	AAAACATG GGCTAGCTACAACGA CACGAATG 2816	
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5049	UUUGAUUU G UAGCACUG	1118	CAGTGCTA GGCTAGCTACAACGA AAATCAAA 2820	1
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5071	GGCACUCA A CUCUGAGC	1124	GCTCAGAG GGCTAGCTACAACGA TGAGTGCC 2826	;
5078	AACUCUGA G CCCAUACU	1125	AGTATGGG GGCTAGCTACAACGA TCAGAGTT 2827	,
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5149	AGGCCAUG A UGGCCUUA	1140	TAAGGCCA GGCTAGCTACAACGA CATGGCCT 2842	
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5152	CCAUGAUG G CCUUACAC	1141	GTGTAAGG GGCTAGCTACAACGA CATCATGG	2843
5157	AUGGCCUU A CACUGAAA	1142	TTTCAGTG GGCTAGCTACAACGA AAGGCCAT	2844
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5168	CUGAAAAU G UCACAUUC	1145	GAATGTGA GGCTAGCTACAACGA ATTTTCAG	2847
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5173	AAUGUCAC A UUCUAUUU	1147	AAATAGAA GGCTAGCTACAACGA GTGACATT	2849
5178	CACAUUCU A UUUUGGGU	1148	ACCCAAAA GGCTAGCTACAACGA AGAATGTG	2850
5185	UAUUUUGG G UAUUAAUA	1149	TATTAATA GGCTAGCTACAACGA CCAAAATA	2851
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5206	GUCCAGAC A CUUAACUC	1156	GAGTTAAG GGCTAGCTACAACGA GTCTGGAC	2858
5211	GACACUUA A CUCAAUUU	1157	AAATTGAG GGCTAGCTACAACGA TAAGTGTC	2859
5216	UUAACUCA A UUUCUUGG	1158	CCAAGAAA GGCTAGCTACAACGA TGAGTTAA	2860
5224	AUUUCUUG G UAUUAUUC	1159	GAATAATA GGCTAGCTACAACGA CAAGAAAT	2861
5226	UUCUUGGU A UUAUUCUG	1160	CAGAATAA GGCTAGCTACAACGA ACCAAGAA	2862
5229	UUGGUAUU A UUCUGUUU	1161	AAACAGAA GGCTAGCTACAACGA AATACCAA	2863
5234	AUUAUUCU G UUUUGCAC	1162	GTGCAAAA GGCTAGCTACAACGA AGAATAAT	2864
5239	UCUGUUUU G CACAGUUA	1163	TAACTGTG GGCTAGCTACAACGA AAAACAGA	2865
5241	UGUUUUGC A CAGUUAGU	1164	ACTAACTG GGCTAGCTACAACGA GCAAAACA	2866
5244	UUUGCACA G UUAGUUGU	1165	ACAACTAA GGCTAGCTACAACGA TGTGCAAA	2867
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5294	UGAGGAGA G UUUUCUCC	1173	GGAGAAAA GGCTAGCTACAACGA TCTCCTCA	2875
5303	UUUUCUCC A UAUCAAAA	1174	TTTTGATA GGCTAGCTACAACGA GGAGAAAA	2876
5305	UUCUCCAU A UCAAAACG	1175	CGTTTTGA GGCTAGCTACAACGA ATGGAGAA	2877
5311	AUAUCAAA A CGAGGGCU	1176	AGCCCTCG GGCTAGCTACAACGA TTTGATAT	2878
5317	AAACGAGG G CUGAUGGA	1177	TCCATCAG GGCTAGCTACAACGA CCTCGTTT	2879
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5334	GGAAAAAG G UCAAUAAG	1179	CTTATTGA GGCTAGCTACAACGA CTTTTTCC	
5338	AAAGGUCA A UAAGGUCA	1180	TGACCTTA GGCTAGCTACAACGA TGACCTTT	2882
5343	UCAAUAAG G UCAAGGGA	1181	TCCCTTGA GGCTAGCTACAACGA CTTATTGA	2883
5354		1182	AGACGGGG GGCTAGCTACAACGA CTTCCCTT	
5354	AAGGGAAG A CCCCGUCU			2884
	AAGACCCC G UCUCUAUA	1183	TATAGAGA GGCTAGCTACAACGA GGGGTCTT	2885
5365	CCGUCUCU A UACCAACC	1184	GGTTGGTA GGCTAGCTACAACGA AGAGACGG	
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5390	UCACCAAC A CAGUUGGG	1191	CCCAACTG GGCTAGCTACAACGA GTTGGTGA	2893
5393	CCAACACA G UUGGGACC	1192	GGTCCCAA GGCTAGCTACAACGA TGTGTTGG	2894

	22011222	1100	CERTIFICACI CCCETA COETA CA A COLA COCOA A OEGO	2005
5399	CAGUUGGG A CCCAAAAC	1193	GTTTTGGG GGCTAGCTACAACGA CCCAACTG	2895
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5424	UCAGUCAC G UUUCCUUU	1199	AAAGGAAA GGCTAGCTACAACGA GTGACTGA	2901
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5461	UAUCUCAC A CUAAUCUG	1206	CAGATTAG GGCTAGCTACAACGA GTGAGATA	2908
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5623	UUUCAACU G CUUUGAAA	1242	TTTCAAAG GGCTAGCTACAACGA AGTTGAAA	2944
5631	GCUUUGAA A CUUGCCUG	1243	CAGGCAAG GGCTAGCTACAACGA TTCAAAGC	2945
5635	UGAAACUU G CCUGGGGU	1244	ACCCCAGG GGCTAGCTACAACGA AAGTTTCA	2946
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5642	UGCCUGGG G UCUGAGCA	1245	TGCTCAGA GGCTAGCTACAACGA CCCAGGCA	2947
5648	GGGUCUGA G CAUGAUGG	1246	CCATCATG GGCTAGCTACAACGA TCAGACCC	2948
5650	GUCUGAGC A UGAUGGGA	1247	TCCCATCA GGCTAGCTACAACGA GCTCAGAC	2949
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5659	UGAUGGGA A UAGGGAGA	1249	TCTCCCTA GGCTAGCTACAACGA TCCCATCA	2951
5667	AUAGGGAG A CAGGGUAG	1250	CTACCCTG GGCTAGCTACAACGA CTCCCTAT	2952
5672	GAGACAGG G UAGGAAAG	1251	CTTTCCTA GGCTAGCTACAACGA CCTGTCTC	2953
5682	AGGAAAGG G CGCCUACU	1252	AGTAGGCG GGCTAGCTACAACGA CCTTTCCT	2954
5684	GAAAGGGC G CCUACUCU	1253	AGAGTAGG GGCTAGCTACAACGA GCCCTTTC	2955
5688	GGGCGCCU A CUCUUCAG	1254	CTGAAGAG GGCTAGCTACAACGA AGGCGCCC	2956
5698	UCUUCAGG G UCUAAAGA	1255	TCTTTAGA GGCTAGCTACAACGA CCTGAAGA	2957
5706	GUCUAAAG A UCAAGUGG	1256	CCACTTGA GGCTAGCTACAACGA CTTTAGAC	2958
5711	AAGAUCAA G UGGGCCUU	1257	AAGGCCCA GGCTAGCTACAACGA TTGATCTT	2959
5715	UCAAGUGG G CCUUGGAU	1258	ATCCAAGG GGCTAGCTACAACGA CCACTTGA	2960
5722	GGCCUUGG A UCGCUAAG	1259	CTTAGCGA GGCTAGCTACAACGA CCAAGGCC	2961
5725	CUUGGAUC G CUAAGCUG	1260	CAGCTTAG GGCTAGCTACAACGA GATCCAAG	2962
5730	AUCGCUAA G CUGGCUCU	1261	AGAGCCAG GGCTAGCTACAACGA TTAGCGAT	2963
5734	CUAAGCUG G CUCUGUUU	1262	AAACAGAG GGCTAGCTACAACGA CAGCTTAG	2964
5739	CUGGCUCU G UUUGAUGC	1263	GCATCAAA GGCTAGCTACAACGA AGAGCCAG	2965
5744	UCUGUUUG A UGCUAUUU	1264	AAATAGCA GGCTAGCTACAACGA CAAACAGA	2966
5746	UGUUUGAU G CUAUUUAU	1265	ATAAATAG GGCTAGCTACAACGA ATCAAACA	2967
5749	UUGAUGCU A UUUAUGCA	1266	TGCATAAA GGCTAGCTACAACGA AGCATCAA	2968
5753	UGCUAUUU A UGCAAGUU	1267	AACTTGCA GGCTAGCTACAACGA AAATAGCA	2969
5755	CUAUUUAU G CAAGUUAG	1268	CTAACTTG GGCTAGCTACAACGA ATAAATAG	2970
5759	UUAUGCAA G UUAGGGUC	1269	GACCCTAA GGCTAGCTACAACGA TTGCATAA	2971
5765	AAGUUAGG G UCUAUGUA	1270	TACATAGA GGCTAGCTACAACGA CCTAACTT	2972
5769	UAGGGUCU A UGUAUUUA	1271	TAAATACA GGCTAGCTACAACGA AGACCCTA	2973
5771	GGGUCUAU G UAUUUAGG	1272	CCTAAATA GGCTAGCTACAACGA ATAGACCC	2974
5773	GUCUAUGU A UUUAGGAU	1273	ATCCTAAA GGCTAGCTACAACGA ACATAGAC	2975
5780	UAUUUAGG A UGCGCCUA	1274	TAGGCGCA GGCTAGCTACAACGA CCTAAATA	2976
5782	UUUAGGAU G CGCCUACU	1275	AGTAGGCG GGCTAGCTACAACGA ATCCTAAA	2977
5784	UAGGAUGC G CCUACUCU	1276	AGAGTAGG GGCTAGCTACAACGA GCATCCTA	2978
5788	AUGCGCCU A CUCUUCAG	1277	CTGAAGAG GGCTAGCTACAACGA AGGCGCAT	2979
5798	UCUUCAGG G UCUAAAGA	1278	TCTTTAGA GGCTAGCTACAACGA CCTGAAGA	2980
5806	GUCUAAAG A UCAAGUGG	1279	CCACTTGA GGCTAGCTACAACGA CTTTAGAC	2981
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5815	UCAAGUGG G CCUUGGAU	1281	ATCCAAGG GGCTAGCTACAACGA CCACTTGA	2983
5822	GGCCUUGG A UCGCUAAG	1282	CTTAGCGA GGCTAGCTACAACGA CCAAGGCC	2984
5825	CUUGGAUC G CUAAGCUG	1283	CAGCTTAG GGCTAGCTACAACGA GATCCAAG	2985
5830	AUCGCUAA G CUGGCUCU	1284	AGAGCCAG GGCTAGCTACAACGA TTAGCGAT	2986
5834	CUAAGCUG G CUCUGUUU	1285	AAACAGAG GGCTAGCTACAACGA CAGCTTAG	2987
5839	CUGGCUCU G UUUGAUGC	1286	GCATCAAA GGCTAGCTACAACGA AGAGCCAG	2988
5844	UCUGUUUG A UGCUAUUU	1287	AAATAGCA GGCTAGCTACAACGA CAAACAGA	2989
5846	UGUUUGAU G CUAUUUAU	1288	ATAAATAG GGCTAGCTACAACGA ATCAAACA	2990
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5855	CUAUUUAU G CAAGUUAG	1291	CTAACTTG GGCTAGCTACAACGA ATAAATAG	2993
5859	UUAUGCAA G UUAGGGUC	1292	GACCCTAA GGCTAGCTACAACGA TTGCATAA	2994
5865	AAGUUAGG G UCUAUGUA	1293	TACATAGA GGCTAGCTACAACGA CCTAACTT	2995
5869	UAGGGUCU A UGUAUUUA	1294	TAAATACA GGCTAGCTACAACGA AGACCCTA	2996
5871	GGGUCUAU G UAUUUAGG	1295	CCTAAATA GGCTAGCTACAACGA ATAGACCC	2997
5873	GUCUAUGU A UUUAGGAU	1296	ATCCTAAA GGCTAGCTACAACGA ACATAGAC	2998
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5888	AUGUCUGC A CCUUCUGC	1300	GCAGAAGG GGCTAGCTACAACGA GCAGACAT	3002
5895	CACCUUCU G CAGCCAGU	1301	ACTGGCTG GGCTAGCTACAACGA AGAAGGTG	3003
5898	CUUCUGCA G CCAGUCAG	1302	CTGACTGG GGCTAGCTACAACGA TGCAGAAG	3004
5902	UGCAGCCA G UCAGAAGC	1303	GCTTCTGA GGCTAGCTACAACGA TGGCTGCA	3005
5909	AGUCAGAA G CUGGAGAG	1304	CTCTCCAG GGCTAGCTACAACGA TTCTGACT	3006
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5921	GAGAGGCA A CAGUGGAU	1306	ATCCACTG GGCTAGCTACAACGA TGCCTCTC	3008
5924	AGGCAACA G UGGAUUGC	1307	GCAATCCA GGCTAGCTACAACGA TGTTGCCT	3009
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5931	AGUGGAUU G CUGCUUCU	1309	AGAAGCAG GGCTAGCTACAACGA AATCCACT	3011
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5951	GGAGAAGA G UAUGCUUC	1311	GAAGCATA GGCTAGCTACAACGA TCTTCTCC	3013
5953	AGAAGAGU A UGCUUCCU	1312	AGGAAGCA GGCTAGCTACAACGA ACTCTTCT	3014
5955	AAGAGUAU G CUUCCUUU	1313	AAAGGAAG GGCTAGCTACAACGA ATACTCTT	3015
5965	UUCCUUUU A UCCAUGUA	1314	TACATGGA GGCTAGCTACAACGA AAAAGGAA	3016
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5971	UUAUCCAU G UAAUUUAA	1316	TTAAATTA GGCTAGCTACAACGA ATGGATAA	3018
5974	UCCAUGUA A UUUAACUG	1317	CAGTTAAA GGCTAGCTACAACGA TACATGGA	3019
5979	GUAAUUUA A CUGUAGAA	1318	TTCTACAG GGCTAGCTACAACGA TAAATTAC	3020
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5993	GAACCUGA G CUCUAAGU	1321	ACTTAGAG GGCTAGCTACAACGA TCAGGTTC	3023
6000	AGCUCUAA G UAACCGAA	1322	TTCGGTTA GGCTAGCTACAACGA TTAGAGCT	3024
6003	UCUAAGUA A CCGAAGAA	1323	TTCTTCGG GGCTAGCTACAACGA TACTTAGA	3025
6011	ACCGAAGA A UGUAUGCC	1324	GGCATACA GGCTAGCTACAACGA TCTTCGGT	3026
6013	CGAAGAAU G UAUGCCUC	1325	GAGGCATA GGCTAGCTACAACGA ATTCTTCG	3027
6015	AAGAAUGU A UGCCUCUG	1326	CAGAGGCA GGCTAGCTACAACGA ACATTCTT	3028
6017	GAAUGUAU G CCUCUGUU	1327	AACAGAGG GGCTAGCTACAACGA ATACATTC	3029
6023	AUGCCUCU G UUCUUAUG	1328	CATAAGAA GGCTAGCTACAACGA AGAGGCAT	3030
6029	CUGUUCUU A UGUGCCAC	1329	GTGGCACA GGCTAGCTACAACGA AAGAACAG	3031
6031	GUUCUUAU G UGCCACAU	1330	ATGTGGCA GGCTAGCTACAACGA ATAAGAAC	3032
6033	UCUUAUGU G CCACAUCC	1331	GGATGTGG GGCTAGCTACAACGA ACATAAGA	3033
6036	UAUGUGCC A CAUCCUUG	1332	CAAGGATG GGCTAGCTACAACGA GGCACATA	3034
6038	UGUGCCAC A UCCUUGUU	1333	AACAAGGA GGCTAGCTACAACGA GTGGCACA	3035
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6052	GUUUAAAG G CUCUCUGU	1335	ACAGAGAG GGCTAGCTACAACGA CTTTAAAC	3037
6059	GGCUCUCU G UAUGAAGA	1336	TCTTCATA GGCTAGCTACAACGA AGAGAGCC	3038
6061	CUCUCUGU A UGAAGAGA	1337	TCTCTTCA GGCTAGCTACAACGA ACAGAGAG	3039
6069	AUGAAGAG A UGGGACCG	1338	CGGTCCCA GGCTAGCTACAACGA CTCTTCAT	3040
6074	GAGAUGGG A CCGUCAUC	1339	GATGACGG GGCTAGCTACAACGA CCCATCTC	3041
6077	AUGGGACC G UCAUCAGC	1340	GCTGATGA GGCTAGCTACAACGA GGTCCCAT	3042
6080	GGACCGUC A UCAGCACA	1341	TGTGCTGA GGCTAGCTACAACGA GACGGTCC	3043
6084	CGUCAUCA G CACAUUCC	1342	GGAATGTG GGCTAGCTACAACGA TGATGACG	3044
6086	UCAUCAGC A CAUUCCCU	1343	AGGGAATG GGCTAGCTACAACGA GCTGATGA	3045
6088	AUCAGCAC A UUCCCUAG	1344	CTAGGGAA GGCTAGCTACAACGA GTGCTGAT	3046
6096	AUUCCCUA G UGAGCCUA	1345	TAGGCTCA GGCTAGCTACAACGA TAGGGAAT	3047
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6104	GUGAGCCU A CUGGCUCC	1347	GGAGCCAG GGCTAGCTACAACGA AGGCTCAC	3049
6108	GCCUACUG G CUCCUGGC	1348	GCCAGGAG GGCTAGCTACAACGA CAGTAGGC	3050
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C2.5 - 1	andream a andagan	7040	A GGGGGEG GGGERAGERAGERAGERAGERAGERAGERAGERAGERAGE	2051
6115	GGCUCCUG G CAGCGGCU	1349	AGCCGCTG GGCTAGCTACAACGA CAGGAGCC	3051
6118	UCCUGGCA G CGGCUUUU	1350	AAAAGCCG GGCTAGCTACAACGA TGCCAGGA	3052
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6127	CGGCUUUU G UGGAAGAC	1352	CTAGTGAG GGCTAGCTACAACGA CATCCACA	3054
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6138		1354		3056
6142	ACUCACUA G CCAGAAGA	1355	TCTTCTGG GGCTAGCTACAACGA TAGTGAGT	
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6161	GGAGUGGG A CAGUCCUC	1357	GAGGACTG GGCTAGCTACAACGA CCCACTCC	
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6220	AAGAGAGG A CAAAUCUU	1366	AAGATTTG GGCTAGCTACAACGA CCTCTCTT	3068
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6389	AGCAAAUA G UGAUAACA	1398	TGTTATCA GGCTAGCTACAACGA TATTTGCT	3100
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6395	UAGUGAUA A CAAAUAAA	1400	TTTATTTG GGCTAGCTACAACGA TATCACTA	3102

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6419	CUGUUCAU G UCUUGAUU	1406	AATCAAGA GGCTAGCTACAACGA ATGAACAG	3108
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6627	AGCUAGUU A CAAAGUGC	1449	GCACTTTG GGCTAGCTACAACGA AACTAGCT	3151
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6638	AAGUGCUU G UUCAUUAA	1452	TTAATGAA GGCTAGCTACAACGA AAGCACTT	3154

C 6640 T	CONTINUE D INTERPRETA	7.450	Ima morning a a good again again aga aga	2155
6642	GCUUGUUC A UUAAAAUA	1453	TATTTTAA GGCTAGCTACAACGA GAACAAGC	3155
6648	UCAUUAAA A UAGCACUG	1454	CAGTGCTA GGCTAGCTACAACGA TTTAATGA	3156
6651	UUAAAAUA G CACUGAAA	1455	TTTCAGTG GGCTAGCTACAACGA TATTTTAA	3157
6653	AAAAUAGC A CUGAAAAU	1456	ATTTTCAG GGCTAGCTACAACGA GCTATTTT	3158
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6666	AAAUUGAA A CAUGAAUU	1458	AATTCATG GGCTAGCTACAACGA TTCAATTT	3160
6668	AUUGAAAC A UGAAUUAA	1459	TTAATTCA GGCTAGCTACAACGA GTTTCAAT	3161
6672	AAACAUGA A UUAACUGA	1460	TCAGTTAA GGCTAGCTACAACGA TCATGTTT	3162
6676	AUGAAUUA A CUGAUAAU	1461	ATTATCAG GGCTAGCTACAACGA TAATTCAT	3163
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6683	AACUGAUA A UAUUCCAA	1463	TTGGAATA GGCTAGCTACAACGA TATCAGTT	3165
6685	CUGAUAAU A UUCCAAUC	1464	GATTGGAA GGCTAGCTACAACGA ATTATCAG	3166
6691	AUAUUCCA A UCAUUUGC	1465	GCAAATGA GGCTAGCTACAACGA TGGAATAT	3167
6694	UUCCAAUC A UUUGCCAU	1466	ATGGCAAA GGCTAGCTACAACGA GATTGGAA	3168
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6701	CAUUUGCC A UUUAUGAC	1468	GTCATAAA GGCTAGCTACAACGA GGCAAATG	3170
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6708	CAUUUAUG A CAAAAAUG	1470	CATTTTTG GGCTAGCTACAACGA CATAAATG	3172
6714	UGACAAAA A UGGUUGGC	1471	GCCAACCA GGCTAGCTACAACGA TTTTGTCA	3173
6717	CAAAAAUG G UUGGCACU	1472	AGTGCCAA GGCTAGCTACAACGA CATTTTTG	3174
6721	AAUGGUUG G CACUAACA	1473	TGTTAGTG GGCTAGCTACAACGA CAACCATT	3175
6723	UGGUUGGC A CUAACAAA	1474	TTTGTTAG GGCTAGCTACAACGA GCCAACCA	3176
6727	UGGCACUA A CAAAGAAC	1475	GTTCTTTG GGCTAGCTACAACGA TAGTGCCA	3177
6734	AACAAAGA A CGAGCACU	1476	AGTGCTCG GGCTAGCTACAACGA TCTTTGTT	3178
6738	AAGAACGA G CACUUCCU	1477	AGGAAGTG GGCTAGCTACAACGA TCGTTCTT	3179
6740	GAACGAGC A CUUCCUUU	1478	AAAGGAAG GGCTAGCTACAACGA GCTCGTTC	3180
6753	CUUUCAGA G UUUCUGAG	1479	CTCAGAAA GGCTAGCTACAACGA TCTGAAAG	3181
6762	UUUCUGAG A UAAUGUAC	1480	GTACATTA GGCTAGCTACAACGA CTCAGAAA	3182
6765	CUGAGAUA A UGUACGUG	1481	CACGTACA GGCTAGCTACAACGA TATCTCAG	3183
6767	GAGAUAAU G UACGUGGA	1482	TCCACGTA GGCTAGCTACAACGA ATTATCTC	3184
6769	GAUAAUGU A CGUGGAAC	1483	GTTCCACG GGCTAGCTACAACGA ACATTATC	3185
6771	UAAUGUAC G UGGAACAG	1484	CTGTTCCA GGCTAGCTACAACGA GTACATTA	3186
6776	UACGUGGA A CAGUCUGG	1485	CCAGACTG GGCTAGCTACAACGA TCCACGTA	3187
6779	GUGGAACA G UCUGGGUG	1486	CACCCAGA GGCTAGCTACAACGA TGTTCCAC	3188
6785	CAGUCUGG G UGGAAUGG	1487	CCATTCCA GGCTAGCTACAACGA CCAGACTG	3189
6790	UGGGUGGA A UGGGGCUG	1488	CAGCCCCA GGCTAGCTACAACGA TCCACCCA	3190
6795	GGAAUGGG G CUGAAACC	1489	GGTTTCAG GGCTAGCTACAACGA CCCATTCC	3191
6801	GGGCUGAA A CCAUGUGC	1490	GCACATGG GGCTAGCTACAACGA TTCAGCCC	3192
6804	CUGAAACC A UGUGCAAG	1491	CTTGCACA GGCTAGCTACAACGA GGTTTCAG	3193
6806	GAAACCAU G UGCAAGUC	1492	GACTTGCA GGCTAGCTACAACGA ATGGTTTC	3194
6808	AACCAUGU G CAAGUCUG	1493	CAGACTTG GGCTAGCTACAACGA ACATGGTT	3195
6812	AUGUGCAA G UCUGUGUC	1494	GACACAGA GGCTAGCTACAACGA TTGCACAT	3196
6816	GCAAGUCU G UGUCUUGU	1495	ACAAGACA GGCTAGCTACAACGA AGACTTGC	3197
6818	AAGUCUGU G UCUUGUCA	1496	TGACAAGA GGCTAGCTACAACGA ACAGACTT	3198
6823	UGUGUCUU G UCAGUCCA	1497	TGGACTGA GGCTAGCTACAACGA AAGACACA	3199
6827	UCUUGUCA G UCCAAGAA	1498	TTCTTGGA GGCTAGCTACAACGA TGACAAGA	3200
6836	UCCAAGAA G UGACACCG	1499	CGGTGTCA GGCTAGCTACAACGA TTCTTGGA	3201
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6841	GAAGUGAC A CCGAGAUG	1501	CATCTCGG GGCTAGCTACAACGA GTCACTTC	3203
6847	ACACCGAG A UGUUAAUU	1502	AATTAACA GGCTAGCTACAACGA CTCGGTGT	3204
6849	ACCGAGAU G UUAAUUUU	1503	AAAATTAA GGCTAGCTACAACGA ATCTCGGT	3205
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8888 GGACCCGO G CCOOGOOD ISD/ MAACAAGG GGCIAGCIACAACGA ACGGG.	
COTO CONTROLLE C	
6873 CGUGCCUU G UUUCCUAG 1508 CTAGGAAA GGCTAGCTACAACGA AAGGC	
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TSO7	7500	UGUAAAUU G CCAAUAAU	1661	ATTATTGG GGCTAGCTACAACGA AATTTACA	3363
Test	7504	AAUUGCCA A UAAUUCCU	1662	AGGAATTA GGCTAGCTACAACGA TGGCAATT	3364
T517	7507	UGCCAAUA A UUCCUGUC	1663	GACAGGAA GGCTAGCTACAACGA TATTGGCA	3365
7523 CCAUGAAA A UGCAAAUU 1666 AATTTGCA GGCTAGCTACAACGA TTTCATGG 3368 7525 AUGAAAAU G CAAAUUAU 1667 ATAATTG GGCTAGCTACAACGA ATTTCAT 3369 7529 AAAUGCAA A UUAUCCAG 1668 CTGGATAA GGCTAGCTACAACGA ATTTCAT 3370 7532 UIGCAAAUU A UCCAGUIGU 1669 ACACTGGA GGCTAGCTACAACGA ATTTCAA 3371 7537 AUUAUCCAGU G UAGAUAU 1670 TATCTACA GGCTAGCTACAACGA ACTGGATA 3373 7539 UAUCCAGU G UAGAUAU 1671 TATATCTA GGCTAGCTACAACGA ACTGGATA 3374 7543 CAGUGUAG A UAUAUUUG 1672 CAAATATA GGCTAGCTACAACGA ACTGCAC 3374 7545 GUGUAGAU A UAUUUGAC 1673 GTCAAATA GGCTAGCTACAACGA ATCTCAC 3375 7547 GUAGAUUU A UUUGACCA 1674 TGGTCAAATA GGCTAGCTACAACGA ATCTCAC 3376 7552 UAUAUUGAC A UCACCCUA 1676 TAGGGTAG GGCTAGCTACAACGA ATCTCAC 3377 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA ATCCATAG 3379 7563 AUCACCCU A UGGAUAUU 1678 AATCACA GGCTAGCTACAACGA ATCCATAG	7513	UAAUUCCU G UCCAUGAA	1664	TTCATGGA GGCTAGCTACAACGA AGGAATTA	3366
7525 AUGAAAAU G CAAAUUAU 1657 ATAATTTG GSCTAGCTACAACGA ATTTCAT 3369 7529 AAGIGCAA A UUAUCCAG 1658 CTGGATAA GGCTAGCTACAACGA ATTTCCATT 3370 7532 UGCAAAUU A UCCAGUGU 1669 ACACTGGA GGCTAGCTACAACGA AATTTCA 3371 7537 AUUAUCCAG G UGUAGAUA 1670 TATCTACA GGCTAGCTACAACGA ACTGGATA 3373 7539 UAUCCAGU G UAGAUAUA 1671 TATATCTA GGCTAGCTACAACGA ACTGACTA 3373 7543 CAGUGUAG A UAUUUGAC 1673 GTCAAATA GGCTAGCTACAACGA ATTCTACA 3375 7547 GUAGAUAU A UUUGACC 1674 TGGTCAAATA GGCTAGCTACAACGA ATTACTAC 3375 7552 UAUAUUGA C CAUCACC 1675 GGTGATGG GGCTAGCTACAACGA CAAATATA 3377 7553 UAUCACCU A UGGACCUA 1676 TAGGGTAG GGCTAGCTACAACGA GATGATA 3377 7555 AUUCACCU A UGGAUAUU 1677 CCATAGGG GGCTAGCTACAACGA GATGACA 3379 7556 JUCACAUCA A UGGAUAUU 1680 AATATCACA GGCTAGCTACAACCA ACCAATTCCA 3380 7567 CCCUAGGAU A UUGCCUA 1680 AATACAG GGCTAGCTACAACCA ACCAATTCCC <td>7517</td> <td>UCCUGUCC A UGAAAAUG</td> <td>1665</td> <td>CATTTTCA GGCTAGCTACAACGA GGACAGGA</td> <td>3367</td>	7517	UCCUGUCC A UGAAAAUG	1665	CATTTTCA GGCTAGCTACAACGA GGACAGGA	3367
7529 AAAUGCAA A UUAUCCAG 1668 CTGGATAA GGCTAGCTACAACGA TTGCATTT 3370 7532 UGCAAAUU A UCCAGUGU 1669 ACACTGGA GGCTAGCTACAACGA AATTTGCA 3371 7537 AUUAUCCA G UGUAGAUA 1670 TATCTACA GGCTAGCTACAACGA ACTGGATA 3372 7539 UAUCCAGU G UAGAUAUA 1671 TATATCTA GGCTAGCTACAACGA ACTGGATA 3373 7543 CAGUGUAG A UAUAUUGACA 1672 CAAATATA GGCTAGCTACAACGA ACTACAC 3374 7545 GUGUAGAU A UAUGACCA 1673 GTCAAATA GGCTAGCTACAACGA ATCTACAC 3375 7547 GUGAGAUAU A UUUGACCA 1675 GGTGATGGTACAACGA ATCTACAC 3375 7552 UAUAUUUG A CCAUCACC 1675 GGTGATGGTACAACGA GAAATATA 3377 7558 UGACCAUC A CCCUAUGG 1676 TAGGGTGA GGCTACCAACGA GATGGTCA 3379 7558 UGACCCU A UCGACUU 1678 1677 CCATAGGG GGCTACCACAGA GAGGTCAT 3380 7567 CCCUAUGG A UAUGGCU 1679 AGCCAATA GGCTACCACAGA ACCATAGGG 3381 7567 CCUUAGGU A UUGCCU 1682 1680 CTAGCCAA GGCTACCACAGA ACAACTAC 3383 <	7523	CCAUGAAA A UGCAAAUU	1666	AATTTGCA GGCTAGCTACAACGA TTTCATGG	3368
7532 UGCAAAUU A UCCAGUGU 1669 ACACTGGA GGCTAGCTACAACGA AATTTGCA 3371 7537 AUUAUCCA G UGUAGAUA 1670 TATCTACA GGCTAGCTACAACGA TGGATAAT 3372 7539 UAUCCAGU G UAGAUAU 1671 TATATCTA GGCTAGCTACAACGA ACTGGATA 3373 7543 CAQUGUAG A UAUAUUUG 1672 CAAATATA GGCTAGCTACAACGA ACTGCATCA 3374 7545 GUGUAGAU A UAUUUGAC 1673 GTCAAATA GGCTACCACGA ATCTACA 3375 7547 GUAGAUAU A UUUGACC 1674 TGGTCAAA GGCTACCAACGA ATCTACA 3376 7552 UAUAUUUGA C A UCACCCUA 1676 GTGGTAGCTACAACGA CAAATATA 3377 7555 NUUUGACC A UCACCCUA 1676 TAGGGTGA GGCTAGCTACAACGA CAAATATA 3379 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA AGGGTAAT 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA CATAGGG 3381 7567 CCCUAUGG A UUGCCUU 1681 AAACTAG GGCTAGCTACAACGA CATATATCC 3382 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA AAAACTAG 3386<	7525	AUGAAAAU G CAAAUUAU	1667	ATAATTTG GGCTAGCTACAACGA ATTTTCAT	3369
7537 AUUAUCCA G UGUAGAUA 1670 TATCTACA GGCTAGCTACAACGA TGGATAAT 3372 7539 UAUCCAGU G UAGAUAUA 1671 TATATCTA GGCTAGCTACAACGA ACTGGATA 3373 7543 CAGUGUAG A UAUAUUG 1672 CAAATTATA GGCTAGCTACAACGA ACTGGATA 3373 7545 GUGUAGAU A UAUUUGACC 1673 GTCAAATTA GGCTACCAACGA ATATCTAC 3375 7547 GUAGAUAU A UUUGACCA 1674 TGGTCAAA GGCTACCAACGA ATATCTAC 3376 7552 UAUAUUUG A CCAUCACC 1675 GGTGATGG GGCTACCAACGA ATATCTAC 3377 7555 AUUACACCU A UGACCCUA 1676 TAGGTGA GGCTACCAACGA GATGGTCA 3379 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GCTAGCTACAACGA AGTGGTCACA 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTACCAACGA CATAGGA AGGTCATA 3380 7567 CCCUAUGG A UAUUGGCU 1679 AGCCAATA GGCTACCAACGA ATCCCATAG 3381 7569 CUAUGGAU A UUGGCU 1681 AAACTAG GGCTAGCTACAACGA ATCCCAATA 3382 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA AAAACTA <	7529	AAAUGCAA A UUAUCCAG	1668	CTGGATAA GGCTAGCTACAACGA TTGCATTT	3370
TATATCTA GGCTAGCTACAACGA ACTGGATA 3373 TATATCTA GGCTAGCTACAACGA ACTGGATA 3374 TATATCTA GGCTAGCTACAACGA CTACACTG 3374 TATATCTA GGCTAGCTACAACGA CTACACTG 3374 TATATCTA GGCTAGCTACAACGA CTACACTG 3374 TATATCTA GGCTAGCTACAACGA CTACACCT 3374 TATATCTA GGCTAGCTACAACGA CTACACCT 3375 TATATCTA GGCTAGCTACAACGA CTACACCT 3375 TATATCTA GGCTAGCTACAACGA ATCTACAC 3375 TATATCTA GGCTAGCTACAACGA ATCTACAC 3375 TATATCTA GGCTAGCTACAACGA ATCTACAC 3376 TATATCTA GGCTACAACGA ATCTACAC 3376 TATATCTA GGCTAGCTACAACGA ATCTACAC 3376 TATATCTA GGCTAGCTACAACGA ATCTACAC 3376 TATATCTA GGCTAGCTACAACGA ATCTACACGA CAAATTATA 3377 TATATCTA GGCTAGCTACAACGA ATCTACACGA CAAATTATA 3377 TATATCTA GGCTAGCTACAACGA CAAATTATA 3376 TATATCA GGCTAGCTACAACGA AGGGTAGCTACAACGA AGGGTAGCTACAACGA AATCTCATAG 3380 TATATCA GGCTAGCTACAACGA AATCTCATAG 3380 TATATCA GGCTAGCTACAACGA AATCTCATAG 3381 TATATCA GGCTAGCTACAACGA AATCTCATAG 3381 TATATCA GGCTAGCTACAACGA AAACTAC 3383 TATATCA GGCTAGCTACAACGA AAACTAC 3383 TATATCA GGCTAGCTACAACGA AAACTAC 3385 TATATCA GGCTAGCTACAACGA AAACTAC 3386 TATATCA GGCTAGCTACAACGA TATATAAA 3387 TATATCA GGCTAGCTACAACGA TATATAAA 3387 TATATCA GGCTAGCTACAACGA TATATAAA 3387 TATATCA GGCTAGACGA GGCTAGCTACAACGA TATATAAA 3387 TATATCA GGCTAGCTACAACGA TATATAAA 3387 TATATCA GGCTAGCTACAACGA AAACTAC 3390 TATATAG GGCTAGCTACAACGA AAACTAC 3390 TATATAG GGCTAGCTACAACGA AAACTAC 3391 TATATAG GGCTAGCTACAACGA AAACTAC 3391 TATATAG GGCTAGCTACAACGA AAACTAC 3391 TATATAG GGCTAGCTACAA	7532	UGCAAAUU A UCCAGUGU	1669	ACACTGGA GGCTAGCTACAACGA AATTTGCA	3371
7543 CAGUGUAGA A UAUAUUUG 1672 CAAATATA GGCTACAACGA CTACAACTA 3374 7545 GUGUAGAU A UAUUUGACC 1673 GTCAAATA GGCTACAACGA ATCTACAC 3375 7547 GUAGAUAU A UUUUGACCA 1674 TGGTCAAA GGCTAGCTACAACGA ATATCTAC 3376 7552 UAUAUUUGA C CAUCACC 1675 GGTGATGG GGCTAGCTACAACGA GAATATA 3377 7555 AUUUGACCA UCACCCUA 1676 TAGGGTGA GGCTAGCTACAACGA GGTCAAATA 3377 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA GATGGTCA 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTACAACGA AGGGTGAGT 3380 7567 CCCUAUGGA UAUUGGCU 1679 AGCCAATA GGCTAGCTACAACGA CATATCCA 3381 7569 CUAUGGAU A UUGGCUA 1681 AAAACTAG GGCTAGCTACAACGA ATATCCA 3383 7573 GGAUAUUG G CUUGUUU 1682 AGCAAAA GGCTACAACGA TAGCAATATCCA 3383 7582 CUAGUUUU G CUUUUUU 1682 AGCAAAA GGCTAGCTACAACGA TAGAACAA 3386 7588 UUGCCUU A UUAAGCAA 1684 TTGCTTAA GGCTACAACGA TAGAACAA 3386 <td>7537</td> <td>AUUAUCCA G UGUAGAUA</td> <td>1670</td> <td>TATCTACA GGCTAGCTACAACGA TGGATAAT</td> <td>3372</td>	7537	AUUAUCCA G UGUAGAUA	1670	TATCTACA GGCTAGCTACAACGA TGGATAAT	3372
7545 GUGUAGAU A UAUUUGAC 1673 GTCAAATA GGCTAGCTACAACGA ATCTACAC 3375 7547 GUAGAUAU A UUUGACCA 1674 TGGTCAAA GGCTAGCTACAACGA ATATCTAC 3376 7552 UAUAUUUG A CCAUCACC 1675 GGTGATGG GGCTAGCTACAACGA CAAATATA 3377 7555 AUUGACCA A UCACCCUA 1676 TAGGGTGA GGCTAGCTACAACGA GGTCAAAT 3379 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA GGTAGGTCA 3379 7558 UGACCAUC A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA AGGGTAT 3380 7563 AUCACCCU A UGGAUAUU 1679 AGCCAATA GGCTAGCTACAACGA AGGGTAGGG 3381 7567 CCCUAUGGAU A UUGGCUA 1680 CTAGCCAA GGCTAGCTACAACGA ATCCATAG 3382 7573 GGAUAUUG G UUUUGCU 1681 AAAACTAG GGCTAGCTACAACGA ATCCATAG 3383 7577 AUUGGCUA G UUUUGCU 1682 AGGCAAAA GGCTAGCTACAACGA AAAACTAG 3385 7582 CUAGUUUU G CUUUAUU 1683 AATAAAAG GGCTAGCTACAACGA AAAACTAG 3386 7588 UUGCCUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA TTAATAAA	7539	UAUCCAGU G UAGAUAUA	1671	TATATCTA GGCTAGCTACAACGA ACTGGATA	3373
7547 GUAGAUAU A UUUGACCA 1674 TGGTCAAA GGCTAGCTACAACGA ATATCTAC 3376 7552 UAUAUUUG A CCAUCACC 1675 GGTGATGG GGCTAGCTACAACGA CAAATATA 3377 7555 AUUUGACC A UCACCCUA 1676 TAGGGTGA GGCTAGCTACAACGA GGTCAAAT 3378 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA GATGGTCA 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA GGGTGGT 3380 7567 CCCUAUGG A UAUUGCU 1679 AGCCAATA GGCTAGCTACAACGA CATAGGG 381 7569 CUAUGGUA G UUUGCCU 1681 AAAACTAG GGCTAGCTACAACGA ATCCATAG 3382 7573 GGAUAUUG G CUAGUUU 1681 AAAACTAG GGCTAGCTACAACGA ATACCATAG 3383 7574 AUUGCUU G UUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA AAAACTAG 3385 7582 CUAGUUUU G CUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3386 7583 UUUAUUAA G CAAAUUCA 1684 TTGCTTAA GGCTAGCTACAACGA AAAACTAG 3386 7597 UUAAGCAA A UUCAUUUC 1685 TGAATTAG GGCTAGCTACAACGA TAAAAA <t< td=""><td>7543</td><td>CAGUGUAG A UAUAUUUG</td><td>1672</td><td>CAAATATA GGCTAGCTACAACGA CTACACTG</td><td>3374</td></t<>	7543	CAGUGUAG A UAUAUUUG	1672	CAAATATA GGCTAGCTACAACGA CTACACTG	3374
7552 UAUAUUUG A CCAUCACC 1675 GGTGATGG GGCTAGCTACAACGA CAAATATA 3377 7555 AUUUGACC A UCACCCUA 1676 TAGGGTGA GGCTAGCTACAACGA GGTCAAAT 3378 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA GGTGAT 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA AGGGTCAT 3380 7567 CCCUAUGG A UAUUGGCU 1679 AGCCAATA GGCTAGCTACAACGA CCATAGGG 3381 7569 CUAUGGAU A UUUGCUU 1680 CTAGCCAA GGCTAGCTACAACGA CAATATCC 3382 7573 GGAUAUUG G CUAUUUU 1681 AAAACTAG GGCTAGCTACAACGA CAATATCC 3383 7577 AUUGCUU G CUUUAUU 1682 AGGCAAAA GGCTAGCTACAACGA CAATATCC 3384 7582 CUAGCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAGGCAA 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTG GGCTAGCTACAACGA TTACTAAA 3387 7597 UUAAGCAA A UUCAUUCC 1686 GAAATGAA GGCTAGCTACAACGA TTACTAAA 3386 7593 UUUAUCAG G CCUGAAUG 1686 GAATTGA GGCTACCTACAACGA TTGCTTACA	7545	GUGUAGAU A UAUUUGAC	1673	GTCAAATA GGCTAGCTACAACGA ATCTACAC	3375
7555 AUUUGACC A UCACCCUA 1676 TAGGGTGA GGCTACAACGA GGTCAAAT 3378 7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA GATGGTCA 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA AGGGTGAT 3380 7567 CCCUAUGG A UAUUGGCU 1679 AGCCAATA GGCTAGCTACAACGA CCATAGGG 3381 7569 CUAUGGAU A UUUGCCU 1680 CTAGCCAA GGCTAGCTACAACGA ATCCATAG 3382 7573 GGAUAUUG G CUAUUUU 1681 AAAACTAG GGCTAGCTACAACGA CAATATCC 3383 7577 AUUGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA AAACTAG 3384 7582 CUAGUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAGCCAA 3385 7588 UUGCCUU A UUAAGCAA 1684 TTGCTTAA GGCTACAACGA AAAGCAA 3387 7597 UUAAGCAA A UUCAUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 7601 GCAAAUUC A UUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA TTGCTTAA 3389 7607 UCAUUUCA G CCUGAUAU 1688 CATTCAGG GGCTAGCTACAACGA TCAGGCT 3392 </td <td>7547</td> <td>GUAGAUAU A UUUGACCA</td> <td>1674</td> <td>TGGTCAAA GGCTAGCTACAACGA ATATCTAC</td> <td>3376</td>	7547	GUAGAUAU A UUUGACCA	1674	TGGTCAAA GGCTAGCTACAACGA ATATCTAC	3376
7558 UGACCAUC A CCCUAUGG 1677 CCATAGGG GGCTAGCTACAACGA GATGGTCA 3379 7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA AGGGTGAT 3380 7567 CCCUAUGG A UAUUGGCU 1679 AGCCAATA GGCTAGCTACAACGA CCATAGGG 3381 7569 CUAUGGAU A UUGGCUAG 1680 CTAGCCAA GGCTACCACGA ATCCATAG 3382 7573 GGAUAUUG G CUAUUUUU 1681 AAAACTAG GGCTAGCTACAACGA CAATATCC 3383 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA CAATATCC 3384 7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTACAACGA AAAGGCAA 3386 7593 UUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCACACGA TTACTAAA 3387 7601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTACAACGA TTACTACAA 3389 7607 UCAUUCA G CCUGAUAG 1689 GGCAGACA GGCTAGCTACAACGA TCAGCCTA 3391 7619 GAAUGUCU G CUAUAUA 1690 TAGGCAGA GGCTAGCTACAACGA ATCCAGCCTA 33	7552	UAUAUUUG A CCAUCACC	1675	GGTGATGG GGCTAGCTACAACGA CAAATATA	3377
7563 AUCACCCU A UGGAUAUU 1678 AATATCCA GGCTAGCTACAACGA AGGGTGAT 3380 7567 CCCUAUGG A UAUUGGCU 1679 AGCCAATA GGCTAGCTACAACGA CCATAGGG 3381 7569 CUAUGGAU A UUGGCUAG 1680 CTAGCCAA GGCTAGCTACAACGA ATCCATAG 3382 7573 GGAUAUUG G CUAGUUUU 1681 AAAACTAG GGCTAGCACGA CAATATCC 3383 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA ATAGCCAA 3384 7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAGCCAA 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAAAA 3387 7597 UUAAGCAA A UUCAUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAAA 3386 7593 UUAAGCAA A UUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA TTGCTTAAA 3388 7601 GCAAAUUCA G CUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TAAAGAGA 3390 7613 CAGCUGAA UGUCUCCC 1689 GGCAGACA GGCTAGCTACAACGA AGACA	7555	AUUUGACC A UCACCCUA	1676	TAGGGTGA GGCTAGCTACAACGA GGTCAAAT	3378
7567 CCCUAUGG A UAUUGGCU 1679 AGCCAATA GGCTAGCTACAACGA CCATAGGG 3381 7569 CUAUGGAU A UUGGCUAG 1680 CTAGCCAA GGCTAGCTACAACGA ATCCATAG 3382 7573 GGAUAUUG G CUAGUUU 1681 AAAACTAG GGCTAGCTACAACGA CAATATCC 3383 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA TAGCCAAT 3384 7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAGGCAA 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTG GGCTAGCTACAACGA TTAATAAA 3387 7597 UUAAGCAA A UUCAUUUC 1686 GAAATGAA GGCTAGCTACAACGA TTAATAAA 3388 7601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA TGAAATGA 3390 7613 CAGCCUGA A UGUCGCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATCAGCTA 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7627 GCCUGAUA UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGACATTC	7558	UGACCAUC A CCCUAUGG	1677	CCATAGGG GGCTAGCTACAACGA GATGGTCA	3379
7569 CUAUGGAU A UUGGCUAG 1680 CTAGCCAA GGCTAGCTACAACGA ATCCATAG 3382 7573 GGAUAUUG G CUAGUUU 1681 AAAACTAG GGCTAGCTACAACGA CAATATCC 3383 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA TAGCCAAT 3384 7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTACAACGA AAAACTAG 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAATAAA 3387 7597 UUAAGCAA A UUCAUUCC 1686 GAAATGAA GGCTACAACGA TTGCTTAA 3388 7601 GCABAUUC A UUUCAGCC 1687 GGCTGAAA GGCTACCAACGA TGAAATGA 3390 7613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCT 3391 7615 GCCUGAAU 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CUUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7627 GCCUGAUAU A UAUUCUCU 1692 AGAATATA GGCTAGCTACAACGA AGACAAC 3394	7563	AUCACCCU A UGGAUAUU	1678	AATATCCA GGCTAGCTACAACGA AGGGTGAT	3380
GGAUAUUG G CUAGUUUU 1681 AAAACTAG GGCTAGCTACAACGA CAATATCC 3383 7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA TAGCCAAT 3384 7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAGCCAA 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAATAAA 3387 7597 UUAAGCAA A UUCAUUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 7601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA TTGCTTAA 3389 7607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 7613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 7615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA ATTCAGGC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGACATTC 3393 7625 CUGCCUAU A UAUUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3394 7626 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3396 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA ATATAGGC 3398 7643 CUCUUUGU A UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGA 3398 7643 CUCUUUGU A UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA AAAGAGA 3399 7655 UCCUUUGA A UCCUCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 7656 UCCUUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA TCAAAGGA 3400 7657 GUUAAAACC A UCCUGUGG 1701 ACAGGATG GGCTAGCTACAACGA TTAACGG 3402 7667 GUUAAAACC A UCCUGUGG 1701 ACAGGATG GGCTAGCTACAACGA TTAACGG 3402 7667 GUUAAAACA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAAC 3403	7567	CCCUAUGG A UAUUGGCU	1679	AGCCAATA GGCTAGCTACAACGA CCATAGGG	3381
7577 AUUGGCUA G UUUUGCCU 1682 AGGCAAAA GGCTAGCTACAACGA TAGCCAAT 3384 7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAGCCAA 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAATAAA 3387 7597 UUAAGCAA A UUCAUUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 7601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA TTGCTTAA 3389 7607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 7613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 7615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA ATTCAGGC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGACATTC 3393 7625 CUGCCUAU A UAUUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUUCUCUC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3396 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAGAGATA 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAGAGACA 3398 7643 CUCUUUGU A UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAGAGACA 3398 7644 UAUUCUCU G CUCUUUGU 1697 AAGGAGAA GGCTAGCTACAACGA AAAGAGA 3398 7655 UCCUUUGA A UCCUCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA TCAAAGGA 3400 7667 GUUAAAAC A UCCUGUG 1700 ACAGGATG GGCTAGCTACAACGA GTTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7569	CUAUGGAU A UUGGCUAG	1680	CTAGCCAA GGCTAGCTACAACGA ATCCATAG	3382
7582 CUAGUUUU G CCUUUAUU 1683 AATAAAGG GGCTAGCTACAACGA AAAACTAG 3385 7588 UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAAGCAA 3386 7593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAATAAA 3387 7597 UUAAGCAA A UUCAUUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 7601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA GAATTTGC 3389 7607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 7613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 7615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGACATTC 3394 7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGAGCA 3396 7634 UAUUCUCU G CUCUUUGU 1694 GCAGAGAA GGCTAGCTACAACGA AGAGAATA 3397 7641 UGCUCUUU G UAUUCUCU 1695 ACAAAGAG GGCTAGCTACAACGA ACAAAGAG 3398	7573	GGAUAUUG G CUAGUUUU	1681	AAAACTAG GGCTAGCTACAACGA CAATATCC	3383
UUGCCUUU A UUAAGCAA 1684 TTGCTTAA GGCTAGCTACAACGA AAAGGCAA 3386 T593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAATAAA 3387 T597 UUAAGCAA A UUCAUUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 T601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA GAATTTGC 3389 T607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 T613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAAATGA 3391 T615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 T619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGCAATTC 3393 T623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGCAGACA 3394 T625 CUGCCUAU A UAUUCUCUC 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 T627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 T634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 T641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGC 3398 T643 CUCUUUGA A UCUCUCCU 1697 AAGGAGAA GGCTAGCTACAACGA AAAGAGG 3399 T655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 T659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA TTTAACGG 3402 T667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAACG 3403	7577	AUUGGCUA G UUUUGCCU	1682	AGGCAAAA GGCTAGCTACAACGA TAGCCAAT	3384
T593 UUUAUUAA G CAAAUUCA 1685 TGAATTTG GGCTAGCTACAACGA TTAATAAA 3387 T597 UUAAGCAA A UUCAUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 T601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA TTGCTTAA 3389 T607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 T613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 T615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATCAGGC 3392 T619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 T623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGACATTC 3394 T625 CUGCCUAU A UAUUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 T627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 T634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 T641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AGAGAATA 3397 T641 UGCUCUUU A UUCUCCU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3398 T643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 T655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 T655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 T659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA TCAAAGGA 3401 T667 GUUAAAAC A UCCUGUG 1700 ACAGGATG GGCTAGCTACAACGA TTTAACG 3402	7582	CUAGUUUU G CCUUUAUU	1683	AATAAAGG GGCTAGCTACAACGA AAAACTAG	3385
T597 UUAAGCAA A UUCAUUUC 1686 GAAATGAA GGCTAGCTACAACGA TTGCTTAA 3388 T601 GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA GAATTGC 3389 T607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 T613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAAGGCTG 3391 T615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 T619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 T623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 T625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 T627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 T634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 T641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA ACAAAGAC 3398 T643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAC 3398 T643 CUCUUUGU A UCUCCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAC 3399 T655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3399 T656 UCCUUUGA A CCCGUUAA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 T665 CCGUUAAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAACGG 3402 T667 GUUAAAACA UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAACGG 3402	7588	UUGCCUUU A UUAAGCAA	1684	TTGCTTAA GGCTAGCTACAACGA AAAGGCAA	3386
GCAAAUUC A UUUCAGCC 1687 GGCTGAAA GGCTAGCTACAACGA GAATTTGC 3389 7607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 7613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 7615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7667 GUUAAAAC A UCCUGUG 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAACGG 3402	7593	UUUAUUAA G CAAAUUCA	1685	TGAATTTG GGCTAGCTACAACGA TTAATAAA	3387
T607 UCAUUUCA G CCUGAAUG 1688 CATTCAGG GGCTAGCTACAACGA TGAAATGA 3390 T613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 T615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 T619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 T623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 T625 CUGCCUAU A UAUUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 T627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 T634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3397 T641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 T643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 T655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA ACAAAGAG 3399 T659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 T665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAACGG 3402 T667 GUUAAAACA UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAACGG 3403	7597	UUAAGCAA A UUCAUUUC	1686	GAAATGAA GGCTAGCTACAACGA TTGCTTAA	3388
7613 CAGCCUGA A UGUCUGCC 1689 GGCAGACA GGCTAGCTACAACGA TCAGGCTG 3391 7615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA TCAAAGGA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAACGG 3402 7667 GUUAAAACA UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC	7601	GCAAAUUC A UUUCAGCC	1687	GGCTGAAA GGCTAGCTACAACGA GAATTTGC	3389
7615 GCCUGAAU G UCUGCCUA 1690 TAGGCAGA GGCTAGCTACAACGA ATTCAGGC 3392 7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAACGG 3402 7667 GUUAAAACC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC	7607	UCAUUUCA G CCUGAAUG	1688	CATTCAGG GGCTAGCTACAACGA TGAAATGA	3390
7619 GAAUGUCU G CCUAUAUA 1691 TATATAGG GGCTAGCTACAACGA AGACATTC 3393 7623 GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA ATATAGGC 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTAACGG 3402 7667 GUUAAAACA UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC	7613	CAGCCUGA A UGUCUGCC	1689	GGCAGACA GGCTAGCTACAACGA TCAGGCTG	3391
GUCUGCCU A UAUAUUCU 1692 AGAATATA GGCTAGCTACAACGA AGGCAGAC 3394 7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA GTTTTAACGG 3402 7667 GUUAAAACA UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC	7615	GCCUGAAU G UCUGCCUA	1690	TAGGCAGA GGCTAGCTACAACGA ATTCAGGC	3392
7625 CUGCCUAU A UAUUCUCU 1693 AGAGAATA GGCTAGCTACAACGA ATAGGCAG 3395 7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC	7619	GAAUGUCU G CCUAUAUA	1691	TATATAGG GGCTAGCTACAACGA AGACATTC	3393
7627 GCCUAUAU A UUCUCUGC 1694 GCAGAGAA GGCTAGCTACAACGA ATATAGGC 3396 7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7623	GUCUGCCU A UAUAUUCU	1692	AGAATATA GGCTAGCTACAACGA AGGCAGAC	3394
7634 UAUUCUCU G CUCUUUGU 1695 ACAAAGAG GGCTAGCTACAACGA AGAGAATA 3397 7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7625	CUGCCUAU A UAUUCUCU	1693	AGAGAATA GGCTAGCTACAACGA ATAGGCAG	3395
7641 UGCUCUUU G UAUUCUCC 1696 GGAGAATA GGCTAGCTACAACGA AAAGAGCA 3398 7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7627	GCCUAUAU A UUCUCUGC	1694	GCAGAGAA GGCTAGCTACAACGA ATATAGGC	3396
7643 CUCUUUGU A UUCUCCUU 1697 AAGGAGAA GGCTAGCTACAACGA ACAAAGAG 3399 7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7634	UAUUCUCU G CUCUUUGU	1695	ACAAAGAG GGCTAGCTACAACGA AGAGAATA	3397
7655 UCCUUUGA A CCCGUUAA 1698 TTAACGGG GGCTAGCTACAACGA TCAAAGGA 3400 7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7641	UGCUCUUU G UAUUCUCC	1696	GGAGAATA GGCTAGCTACAACGA AAAGAGCA	3398
7659 UUGAACCC G UUAAAACA 1699 TGTTTTAA GGCTAGCTACAACGA GGGTTCAA 3401 7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7643	CUCUUUGU A UUCUCCUU	1697	AAGGAGAA GGCTAGCTACAACGA ACAAAGAG	3399
7665 CCGUUAAA A CAUCCUGU 1700 ACAGGATG GGCTAGCTACAACGA TTTAACGG 3402 7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7655	UCCUUUGA A CCCGUUAA	1698	TTAACGGG GGCTAGCTACAACGA TCAAAGGA	3400
7667 GUUAAAAC A UCCUGUGG 1701 CCACAGGA GGCTAGCTACAACGA GTTTTAAC 3403	7659	UUGAACCC G UUAAAACA	1699	TGTTTTAA GGCTAGCTACAACGA GGGTTCAA	3401
	7665	CCGUUAAA A CAUCCUGU	1700	ACAGGATG GGCTAGCTACAACGA TTTAACGG	3402
7672 AACAUCCU G UGGCACUC 1702 GAGTGCCA GGCTAGCTACAACGA AGGATGTT 3404	7667	GUUAAAAC A UCCUGUGG	1701	CCACAGGA GGCTAGCTACAACGA GTTTTAAC	3403
	7672	AACAUCCU G UGGCACUC	1702	GAGTGCCA GGCTAGCTACAACGA AGGATGTT	3404

Input Sequence = HSFLT. Cut Site = R/Y
Arm Length = 8. Core Sequence = GGCTAGCTACAACGA
HSFLT (Human flt mRNA for receptor-related tyrosine kinase.; Acc# X51602; 7680 bp)

Table VI: Human KDR DNAzyme and Substrate sequence

D	C-1-1	G. II	Data	G T-
Pos	Substrate	Seq ID	DNAzyme	Seq ID
		No		No
14	GUCCCGGG A CCCCGGGA		TCCCGGGG GGCTAGCTACAACGA CCCGGGAC	4691
25	CCGGGAGA G CGGUCAGU		ACTGACCG GGCTAGCTACAACGA TCTCCCGG	4692
28	GGAGAGCG G UCAGUGUG	3407	CACACTGA GGCTAGCTACAACGA CGCTCTCC	4693
32	AGCGGUCA G UGUGUGGU	3408	ACCACACA GGCTAGCTACAACGA TGACCGCT	4694
34	CGGUCAGU G UGUGGUCG		CGACCACA GGCTAGCTACAACGA ACTGACCG	4695
36	GUCAGUGU G UGGUCGCU	3410	AGCGACCA GGCTAGCTACAACGA ACACTGAC	4696
39	AGUGUGUG G UCGCUGCG	3411	CGCAGCGA GGCTAGCTACAACGA CACACACT	4697
42	GUGUGGUC G CUGCGUUU	3412	AAACGCAG GGCTAGCTACAACGA GACCACAC	4698
45	uggucgcu g cguuuccu	3413	AGGAAACG GGCTAGCTACAACGA AGCGACCA	4699
47	GUCGCUGC G UUUCCUCU	3414	AGAGGAAA GGCTAGCTACAACGA GCAGCGAC	4700
56	UUUCCUCU G CCUGCGCC	3415	GGCGCAGG GGCTAGCTACAACGA AGAGGAAA	4701
60	CUCUGCCU G CGCCGGGC	3416	GCCCGGCG GGCTAGCTACAACGA AGGCAGAG	4702
62	CUGCCUGC G CCGGGCAU	3417	ATGCCCGG GGCTAGCTACAACGA GCAGGCAG	4703
67	UGCGCCGG G CAUCACUU	3418	AAGTGATG GGCTAGCTACAACGA CCGGCGCA	4704
69	CGCCGGGC A UCACUUGC	3419	GCAAGTGA GGCTAGCTACAACGA GCCCGGCG	4705
72	CGGGCAUC A CUUGCGCG	3420	CGCGCAAG GGCTAGCTACAACGA GATGCCCG	4706
7€	AUCACUU G CGCGCCGC	3421	GCGGCGCG GGCTAGCTACAACGA AAGTGATG	4707
78	UCACUUGC G CGCCGCAG	3422	CTGCGGCG GGCTAGCTACAACGA GCAAGTGA	4708
80	ACUUGCGC G CCGCAGAA	3423	TTCTGCGG GGCTAGCTACAACGA GCGCAAGT	4709
83	UGCGCGCC G CAGAAAGU	3424	ACTTTCTG GGCTAGCTACAACGA GGCGCGCA	4710
90	CGCAGAAA G UCCGUCUG	3425	CAGACGGA GGCTAGCTACAACGA TTTCTGCG	4711
94	GAAAGUCC G UCUGGCAG	3426	CTGCCAGA GGCTAGCTACAACGA GGACTTTC	4712
99	UCCGUCUG G CAGCCUGG	3427	CCAGGCTG GGCTAGCTACAACGA CAGACGGA	4713
102	GUCUGGCA G CCUGGAUA	3428	TATCCAGG GGCTAGCTACAACGA TGCCAGAC	4714
108	CAGCCUGG A UAUCCUCU		AGAGGATA GGCTAGCTACAACGA CCAGGCTG	4715
110	GCCUGGAU A UCCUCUCC		GGAGAGGA GGCTAGCTACAACGA ATCCAGGC	4716
120	CCUCUCCU A CCGGCACC		GGTGCCGG GGCTAGCTACAACGA AGGAGAGG	4717
124	UCCUACCG G CACCCGCA	3432	TGCGGGTG GGCTAGCTACAACGA CGGTAGGA	4718
126	CUACCGGC A CCCGCAGA	3433	TCTGCGGG GGCTAGCTACAACGA GCCGGTAG	4719
130	CGGCACCC G CAGACGCC	3434	GGCGTCTG GGCTAGCTACAACGA GGGTGCCG	4720
134	ACCCGCAG A CGCCCCUG	3435	CAGGGGCG GGCTAGCTACAACGA CTGCGGGT	4721
136	CCGCAGAC G CCCCUGCA	3436	TGCAGGGG GGCTAGCTACAACGA GTCTGCGG	4722
142	ACGCCCCU G CAGCCGCC	3437	GGCGCTG GGCTACCTACAACGA AGGGGCGT	4723
145	CCCCUGCA G CCGCCGGU		ACCGCCG GGCTAGCTACAACGA TGCAGGGG	
148	CUGCAGCC G CCGGUCGG	3439	CCGACCGG GGCTAGCTACAACGA GGCTGCAG	4724
				4725
152 156	AGCCGCCG G UCGGCGCC	3440	GGCGCCGA GGCTAGCTACAACGA CGGCGGCT	4726
158	GGGUCGGC G CGCGCGGGCU	3441	CCCGGGCG GGCTAGCTACAACGA CGACCGGC	4727
			AGCCCGGG GGCTAGCTACAACGA GCCGACCG	4728
164	GCGCCCGG G CUCCCUAG	3443	CTAGGGAG GGCTAGCTACAACGA CCGGGCGC	4729
172	GCUCCCUA G CCCUGUGC	3444	GCACAGGG GGCTAGCTACAACGA TAGGGAGC	4730
177	CUAGCCCU G UGCGCUCA	3445	TGAGCGCA GGCTAGCTACAACGA AGGGCTAG	4731
179	AGCCCUGU G CGCUCAAC	3446	GTTGAGCG GGCTAGCTACAACGA ACAGGGCT	4732
181	CCCUGUGC G CUCAACUG		CAGTTGAG GGCTAGCTACAACGA GCACAGGG	4733
186	UGCGCUCA A CUGUCCUG	3448	CAGGACAG GGCTAGCTACAACGA TGAGCGCA	4734
189	GCUCAACU G UCCUGCGC	3449	GCGCAGGA GGCTAGCTACAACGA AGTTGAGC	4735
194	ACUGUCCU G CGCUGCGG	3450	CCGCAGCG GGCTAGCTACAACGA AGGACAGT	4736
196	NGUCCUGC G CUGCGGGG	3451	CCCCGCAG GGCTAGCTACAACGA GCAGGACA	4737
199	CCUGCGCU G CGGGGUGC	3452	GCACCCCG GGCTAGCTACAACGA AGCGCAGG	4738
204	GCUGCGGG G UGCCGCGA	3453	TCGCGGCA GGCTAGCTACAACGA CCCGCAGC	4739

206 GIGGORGU & COGGORGU 3454 ACTOGOG GOTTAGCTACAGGA ACCCCCC 4741 219 GIGGORGU & GUUCCACU 3456 AGGTOGA GOTTAGCTACAGGA GOCCCC 4742 218 CICACUUCC & CUUCCACU 3456 AGGTOGA GOTTAGCTACAGGA GORACTCC 4742 224 CCACCUCC & GCCUCCU 3458 AGGAGGG GOTTAGCTACAAGGA GORACTCC 4743 224 CCACCUCC & GCUCCUCC 3459 AGAGGGG GGTTAGCTACAAGGA GOGAGGT 4745 226 ACCUCCAC & GCUCCUCC 3459 GAAGGGG GGTTAGCTACAAGGA GOGAGGT 4746 240 UUUUCUAG A CAGGGGCU 3460 AGGGCCTG GGCTAGCTACAAGGA CTAGAGGA 4746 241 AGACAGGG & CUUCCAGG 3461 TCCCCAGG GGCTAGCTACAACGA CTAGAGGA 4746 242 AGACAGGC & CUUCCAGG 3462 TCTCCCAG GGCTAGCTACAACGA CTAGAGGA 4746 243 AGACAGGC & CUUCCAGG 3464 TCTCCCAG GGCTAGCTACAACGA CTAGAGGA 4748 259 GAGAAGAG GUUCCAGG 3464 CTCGGGGG GGCTAGCTACAACGA CTAGTCT 4748 259 GAGAAGAG GUUCCAGG 3465 GAGACCAG GGCTAGCTACAACGA CTATTCT 4749 261 AGACAGGC & CUUCCAGG 3466 GCCCAGAA GGCTAGCTACAACGA CCGATCT 4750 271 GUUCCAGG & UUUCCACC 3467 GAGACCAGG GGCTAGCTACAACGA CCGATCA 4751 280 UUUCCAGG & CUUCCAGG 3467 GAGACCAGG GGCTAGCTACAACGA CCGATCA 4752 280 UUUCCAGG & CUUCCAGG 3467 GAGACCAGG GGCTAGCTACAACGA CCGATCA 4753 281 GUUCCAGG & UUUCCAGC 3467 GAGACCAGG GGCTAGCTACAACGA CCGATCA 4753 282 GUUCCAGG & UUUCCAGC 3467 GAGACCAG GGCTAGCTACAACGA CCGATCA 4753 283 GACAUUUC & CCCGAGCU 3467 ACCTCTGCA GGCTAGCTACAACGA CCGATCA 4754 294 GUUCCAGGA & UUUCCACC 3467 ACCTCTGCA GGCTAGCTACAACGA CCGATCA 4755 305 UUCCAGGAU & GUCCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CCGATCA 4756 306 GUCCAGGAU & GUCCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CCTGCACC 4756 307 GUCCAGGAU & GUCCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CCTGCACC 4758 308 GUCCAGGAU & GUCCAGGCU 3475 GACACCA GGCTAGCTACAACGA CCTGCACC 4756 309 GUCCAGGAU & GUCCAGCU 3475 GACACCAG GGCTAGCTACAACGA CCTGCAC 4766 300 GUCCAGGAU & GUCCAGCU 3475 GACACCAG GGCTAGCTAC							
213 UBCCGCGA G UUCCACCU 3456 AGGTGGA GGCTAGCTACACGA TCGGGGCA 4742 224 CCACCUC G GCCCUCCU 3455 AGGAGCG GGCTAGCTACACGA GGAACTCC 4743 224 CCACCUCC G GCCCUCCU 3455 AGGAGCG GGCTAGCTACACGA GGAACTCC 4745 224 CCACCUCC G GCCCUCCU 3455 AGGAGCG GGCTAGCTACACGA GGGAGGT 4744 224 ACUCACGA G CCGCUCCU 3455 AGGAGCG GGCTAGCTACAACGA CTAGAGAA 4746 224 AUCUCULAG A CAGGGCGU 3460 AGCGCCTG GGCTAGCTACAACGA CTAGAGAA 4746 224 ACUCAGCA G CUGGGAGA 3461 TCCCCACG GGCTAGCTACAACGA CTAGAGAA 4746 224 ACUCAGCG G CUGGGAGA 3462 TCCCCACG GGCTAGCTACAACGA CTAGAGAA 4749 224 AGACAGG G CUCCCGAG 3464 TCCCCACG GGCTAGCTACAACGA CGCTGTCT 4749 225 AGAACCG G UUCCCGA 3464 CTCGGGGG GGCTAGCTACAACGA CGCTTCT 4759 227 GCUCCCGA GUCCCCGA 3465 GCCCAGAA GGCTAGCTACAACGA CGCTTCT 4759 227 AGUUCUGG CAUUCUCCC 3465 GCCCAGAA GGCTAGCTACAACGA CGCATACAT 4752 AGUUCUGG CAUUCUCCC 3467 GGGCGAAA GGCTAGCTACAACGA CGCATACA 4753 229 UUCUGGGC GUCCAGAGA 3468 AGGCCGG GGCTAGCTACAACGA CGCCAGAA 4753 4868 GACAUUUC GCCGAGCU 3468 AGGCCGGG GGCTAGCTACAACGA CGCCAGAA 4755 4869 GUCCAGAGA 3470 ACCTCGAG GGCTAGCTACAACGA CGCAGCA 4756 4869 GAGACAGA GCCAGAAA 4750 4869 GAGACCGA GGGCGAA 4755 4869 GAGACAGA GCCAGAAA 4750 4869 GAGACCGA GGCTAGCTACAACGA CCGCGGCAA 4756 4869 GAGACAGA GCCAGAGAA 4750 4860 4	206	UGCGGGGU G CCGCGAGU	3454	ACTCGCGG	GGCTAGCTACAACGA	ACCCCGCA	4740
218 CGAGGUCC A CCUCCGG 3457 CGGGGGG GGCTAGCTACAACGA GGAACTCG 4743 224 CCACCUCCG G GCCUCCUC 3459 GAGGGGGG GGCTAGCTACAACGA GGAGGT 4744 226 ACCUCCGG G CCUCCUC 3459 GAGGGGG GGCTAGCTACAACGA GCGAGGGT 4747 240 UUCUCIAG A CAGGGGU 3460 AGCGCTG GGCTAGCTACAACGA CTGTCTACA 4747 244 CUCACAGG G CUGGGAA 3461 TCCCCAGC GGCTAGCTACAACGA CTGTTCT 4748 259 GAGAAAGA A CCGGCUCC 3462 CTCCCAGA GGCTAGCTACAACGA CGGTTCTT 4749 273 GCUCCCCA G UUCUGGC 3465 CCCCAGAA GGCTTAGCTACAACGA CGGTTCTT 4759 278 AGUUCUGG C CUCCCAGG 3467 GGGCGAAA GGCTTAGCTACAACGA CGAGAACT 4752 280 UUCUGGGC A UUUCGCC 3467 GGGCGAAA GGCTAACAACGA CCAGAACT 4752 280 UUCGGGC A UUUCGCC 3467 GGGCGAAA GGCTAACAACAA CCAGAACT 4752 290 UUCGCCGG G CUCGAGGA 3469 ACCTCGAG GCTTAGCTACAACGA CCAGAA 4751 291 GCCCGAGGA UUCGCCG 4467 ATC	209	GGGGUGCC G CGAGUUCC	3455	GGAACTCG	GGCTAGCTACAACGA	GGCACCCC	4741
224 CCACCUCC G CUCCUCU 3458 AGGAGGGG GCTAGCTACAACGA GCGGAGGT 4744 226 ACCUCCUC 3459 GAAGGAGG GCCTAGCTACAACGA GCGGAGGT 4745 240 UUCUCUGA A CAGGGCU 3461 TCCCAGCG GCCTAGCTACAACGA CTGTCTAG 4746 244 CUACACAGC G CUGGGGA 3461 TCCCCAG GCTAGCTACAACGA CTGTCTAG 4747 246 AGACAGGC G CUGGGAG 3461 TCCCCAG GCTAGCTACAACGA CTGTCTT 4748 259 GABARAGA A CCGGCUCC 3463 GGGCCCAGCAG GCTAGCTACAACGA CGGTTCTT 4750 271 GCUCCCGAG 3464 CTCGGGGG GCTAGCTACAACGA CGGGTTTT 4750 272 GCUCCCGAG 3465 GCCCAGAA GCCTAGCTACAACCA CGGAACT 4752 280 UUCUGGGC 3467 GGGGGAAA GCCTAGCTACAACGA GCCAGAACT 4752 280 UUCUGGGC 3468 GAGCCAGGACACACACACACACACACACACACACACACA	213	UGCCGCGA G UUCCACCU	3456	AGGTGGAA	GGCTAGCTACAACGA	TCGCGGCA	4742
226	218	CGAGUUCC A CCUCCGCG	3457	CGCGGAGG	GGCTAGCTACAACGA	GGAACTCG	4743
240 UUCUCUAG A CAGGGGCU 3460 AGCGCTG GGCTAGCTACAACGA CTTGCAGA 4746 244 CUAGACAG G CGCUGGGA 3461 TCCCAGC GGCTAGCTACAACGA CTGTTCTA 4747 246 AGACAGG G CGGGGAA 3462 TCTCCCAG GGCTAGCTACAACGA CTGTTCT 4748 259 GAGAAAGA A CCGGCUC 3463 GGAGCGG GGCTAGCTACAACGA CTGTTCTC 4749 263 AAGAACGG G CUCCCGAG 3464 CTCGGAGA GGCTTAGCTACAACGA CGGTTCTT 4750 271 GCUCCCAG G UUCGGCC 3466 GCCCAGAG GGCTTAGCTACAACGA CGGGAGACT 4751 280 UUCGGCC 3467 GGGGGAAG GGCTTAGCTACAACGA CCCAGAACT 4752 280 UUCGCCC 3 67 GGGGGAAG GGCTTAGCTACAACGA ATATGCC 4754 290 UUCGAGGG 3 469 ACCTCGAG GGCTAGCTACAACGA ACTCGAGCA 297 GCCGAGGU 3 486 ACCTCGAG GGCTAGCTACAACGA CTCGAGCC 4756 299 GCCGAGGU 3 472 ACTCTGA GGCTAGCTACAACGA CTCGAGCC 4751 310 GGCCAGGGA AAGAGGAC 3 472	224	CCACCUCC G CGCCUCCU	3458	AGGAGGCG	GGCTAGCTACAACGA	GGAGGTGG	4744
244 CUAGACAG G CUUGGGA 3461 TCCCCAG GGCTAGCTACAACGA CTCTCTAG 4747 246 AGACAGGC G CUUGGGAG 3463 TCCCCAG GGCTAGCTACAACGA TCTTCTCT 4748 259 GAAAAAGA A CCGGUCC 3463 GGAGCCGG GGCTAGCTACAACGA TCTTCTCT 4749 263 AAGAACG G CUCCCGAG 3464 CTCGGGAG GGCTAGCTACAACGA TCTGCGAC 4751 271 GCUCCCGA G UUCUGGG 3465 GCCCAGAA GGCTAGCTACAACGA TCGGGAGC 4751 272 GCUCCCGA G UUCUGGC 3466 GCCAGAAT GGCTACCAACGA CCAGAACT 4752 280 UUCUGGGC A UUUCGCC 3467 GGGCGGAG GGCTAGCTACAACGA GCCCAGAA 4753 285 GGCAUUUC G CCGGCUC 3467 GGGCGGG GGCTAGCTACAACGA GAAATGCC 4754 280 UUCUGGGC G UCGGAGU 3469 ACCTCGAG GGCTAGCTACAACGA CCGCCAGAA 4755 290 UUGGCCG G CUGGAGU 3470 ATCCTGCA GGCTAGCTACAACGA CCTCCAGC 4756 292 CUGAGGU G CAGAGC 3471 GCATCCTCA GGCTAGCTACAACGA ACCTCCAGA 4758 304 GGUCAGG A UGCAGAGC 3472 GCTCTCCA GGCTACAACGA ACCTCCAGA 4758 310 GACAGAG G CAAAGC 3472 GCTCTCTCA GGCTACAACGA ACCTCTCAGACCA 4759 311 GACAGAG G CAACACA 3473 TCCTCTCT GGCTAGCTACAACGA ACCTTCTCACACACACACACACACACACACACACACAC	226	ACCUCCGC G CCUCCUUC	3459	GAAGGAGG	GGCTAGCTACAACGA	GCGGAGGT	4745
246 AGACAGGC G CUGGGAGA 3462 TCTCCCAG GGCTAGCTACAACGA GCCTGTCT 4748 259 AGAAAAGA A CCGGCUCC 3463 GGAGCCGG GGCTAGCTACAACGA TCTTTCTC 4749 263 AAGAACG G CUCCGGA 3464 CTCGGGAGG GGCTAGCTCAACGA CGGTTCTT 4750 271 GCUCCCGA G UUCUGGC 3465 GCCAGAA GGCTAGCTACAACGA CCGGAACT 4751 278 AGUUCUGG C AUUUCGCC 3466 GCGAAATG GGCTAGAACGA CCGGAACT 4752 280 UUCUGGC A GCCCGGACU 3468 GAGCCGGG GGCTAGCTACAACGA GCCCGAAA 4753 289 UUCGCCG G CUCGAGGU 3468 GAGCCGGG GGCTAGCTACAACGA CCGGACAA 4755 290 GUCGAGG G CAGAGGU 3470 ACCTCGAG GGCTAGCTACAACGA CCTCGACC 4756 299 CUCGAGG G CAGAGGU 3471 GCCTCTCA GGCTAGCTACAACGA CCTCGAAC 4757 304 GGUCAGG A CAGAGGAU 3473 TCGCTCCA GCCTAGCTACAACGA ACCTCGA 4759 311 GAUCCAGG GCAAGGUG 3474 GCACCTG GGCTAGCTACAACGA ACCTCCA 4760 312 AAGGUACA G CUGCAGGA 3476 CA	240	UUCUCUAG A CAGGCGCU	3460	AGCGCCTG	GGCTAGCTACAACGA	CTAGAGAA	4746
259 GAGARAGA A CCGGCUCC 3463 GAGACCGG G GCTCCGAG 3464 CTCGGAG G GCTAGCTACAACGA TCTTTCTC 4759 263 AAGAACCG G CUCCCGAG 3465 GCCCAGAA GGCTAGCTACAACGA CGGTTCTT 4750 271 GUCCCCGAG G UUCUGGG 3465 GCCCAGAA GGCTAGCTACAACGA CCCAGAC 4751 280 UUCUGGC 3466 GCGAAATG GGCTAGCTACAACGA CCCAGACA 4752 280 UUCUGGCC 3467 GGGCGAAA GGCTAGCTACAACGA CGCACAAAA 4753 290 UUCGCCCG G CUCGAGGU 3468 GAGCCGGG GCTACCTACAACGA CGCGACAA 4755 290 CUCGAGGU 3469 ACCTCGAG GCCTAGCTACAACGA CCCGAGAC 4756 299 CUCGAGGU CAGCAGAGA ACTCTCCACAGCACACACACACACACACACACACACACAC	244	CUAGACAG G CGCUGGGA	3461	TCCCAGCG	GGCTAGCTACAACGA	CTGTCTAG	4747
263 AAGAACCG G CUCCCGAG 3464 CTCGGGAG GGCTAGCTACAACGA CGGTTCTT 4750 271 GCUCCCGA G UUCUGGC 3465 GCCCAGAA GGCTAGCTACAACGA TCGGGAC 4751 278 AGUUCUGG G CAUUUCGC 3466 GCGAAAT GGCTAGCTACAACGA CCAGAACT 4752 280 UUCUGGG C AUUUCGC 3467 GGGGGAA GGCTAGCTACAACGA GCCCAGAA 4753 285 GGCAUUUC G CCCGGCUC 3468 GAGCCGGG GGCTAGCTACAACGA CGGCGAA 4754 290 UUCGCCCG G CUCGAGGU 3469 ACCTCGAG GGCTAGCTACAACGA CTCGAGCA 4756 297 GCGUCGAG G UGCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CTCGAGCA 4756 299 CUCGAGGU G LOCAGCAS 3471 GCATCCTG GGCTAGCTACAACGA ACCTCGAG 4756 304 GGUCGAG A UGCAGCA 3471 GCATCCTG GGCTAGCTACAACGA ACCTCGAC 4758 310 GUCGAGGU C CAGAGCA 3472 CTCTCCA GGCTAGCTACAACGA ACCTCGAC 4759 311 GAUGCAGA G CAGAGCA 3473 TTGCTCTG GGCTAGCTACAACGA ACCTCTCA 4769 312 AAGGCAAG G UCGUCGC 3476 GCCAGCAG GGCTAGCTACAACGA CTCTCCTC 4762 313 AGGCACAG C UCGCCCG 3476 GCCAGCAG GGCTAGCTACAACGA ACCCTTCT 4762 322 AAGGUCGC G UCGCCCG 3476 GCCAGCAG GGCTAGCTACAACGA ACCCTTCT 4763 322 AAGGUCCU G UCGCCCG 3476 GCCAGCAG GGCTAGCTACAACGA ACCCCTC 4764	246	AGACAGGC G CUGGGAGA	3462	TCTCCCAG	GGCTAGCTACAACGA	GCCTGTCT	4748
271 GCUCCCGA G UUCUGGGC 3466 GCCCAGAA GGCTAGCTACAACGA TCGGGAGC 4751 278 AGUUCUGG G CAUUUCGCC 3466 GCGAAATG GGCTAGCTACAACGA CCAGAACT 4752 280 GUCLGGGC A UUUCGCCC 3467 GGGCGAAA GGCTAGCTACAACGA GCCCAGAA 4753 285 GGCAUUUC G CCCGGCU 3468 GAGCCGGG GGCTAGCTACAACGA GAATACC 4754 290 UUCGCCG G CUCAGGGU 3469 ACCTCGAG GGCTAGCTACAACGA CGGGCAA 4755 297 GGCUCGAG G UCGAGGAU 3471 ATCCTGCA GGCTAGCTACAACGA CTCGAGCC 4758 304 GUUCAGAG G UCGAGGAU 3471 GCTCTCG GGCTAGCTACACGA CTCGACC 4758 305 UGCAGGAU G CAGAGGUC 3472 GCTCTCG GGCTAGCTACAACGA ACCTCCAC 4758 316 AGACAGAG G UGCUGCG 3474 GCACCTG GGCTAGCTACAACGA ACCTCTCC 4769 311 AGAGCAAG G UGCUGCG 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTCCT 4761 318 AGCAAGGUC G CUGCCCU 3477 CAGCACAG GGCTAGCTACAACGA ACCTTCCT 4763 322 LAGUGGCCU G UGCCCU 3477 CAGGCAGG GGCTAGCTACAACGA CACCACCA 4764	259	GAGAAAGA A CCGGCUCC	3463	GGAGCCGG	GGCTAGCTACAACGA	TCTTTCTC	4749
278 AGUUCUGG G CAUUUCGC 3466 GCGARATG GGCTAGCTACAACGA CCAGGAAC 4752 280 UUCUGGGC A 1467 GGGCGAAA GGCTAGCTACAACGA GCCAGAA 4753 285 GGCAUUC G CCCGGCUC 3468 GGGCGGG GCTAGCTACAACGA GAAATGCC 4754 290 UUCGCCCG G CUCGAGGU 3469 ACCTCGAG GGCTAGCTACAACGA CGGCCGAA 4755 297 CUCGAGGU G CAGGAGCU 3471 ATCCTGCA GGCTAGCTACAACGA CTCGAGCC 4756 299 CUCGAGGU G CAGGAGCA 3471 GCATCTGCA GGCTAGCTACAACGA ACCTCGCA 4758 304 GGUGAGGA G CAGAGGCA 3472 GCTTGCTGCA GGCTAGCTACAACGA ACCTCCAC 4759 311 GAUCAGAG G UGCAGCGU 3474 GCACGCAG GGCTAGCTACAACGA ACCTTCTC 4761 312 AAGGUGGU G CUGGCCCU 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTCT 4762 321 JAGGUGGC G CUGGCCCU 3478 GGCAGGG GGCTAGCTACAACGA ACCTACCA 4764 322 JUGUCCUG G CCCUGUGG GA 3481	263	AAGAACCG G CUCCCGAG	3464	CTCGGGAG	GGCTAGCTACAACGA	CGGTTCTT	4750
280 UUCUGGGC A UUUCGCCC 3467 GGGCGAAA GGCTAGCTACAACGA GCCCAGAA 4753 285 GGCAUJUUC G CCCGGCUC 3468 GAGCCGGG GGCTAGCTACAACGA GAAATGCC 4754 290 UUCGCCCG G CUCGAGGU 3468 GAGCCGGG GGCTAGCTACAACGA CGGCGGAA 4755 297 GGUCGAG G UGCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CTGGAGCC 4756 299 CUCGAGGU G CAGGAUGC 3471 GCATCTG GGCTAGCTACAACGA ACCTCGAGC 4757 304 GUCGAGA G CAGAGCAA 3473 TTGCTCTG GGCTAGCTACAACGA ACCTCGAC 4758 310 GUCGAGA G CAAGGCAA 3473 TTGCTCTG GGCTAGCTACAACGA ACCTCTCCT 4760 315 AGACCAGA G CAAGGUC 3474 GCACCTTG GGCTAGCTACAACGA ACCTTCCT 4761 318 AGCAAGGU G CUGCCCU 3475 CAGCACGA GGCTAGCTACAACGA ACCTTCCT 4761 318 AGCAAGGU G CUGCCCU 3477 ACGGCACG GGCTAGCTACAACGA ACCCTTCCT 4763 322 LAGUGGCU G CUGUGGCU 3477 ACGGCAGG GGCTAGCTACAACGA ACCACCACA 4764 328 UGCUGGU G CUCUGGGU 3481 CAGAGCA GGCTAGCTACAACGA ACGACCACA 4765	271	GCUCCCGA G UUCUGGGC	3465	GCCCAGAA	GGCTAGCTACAACGA	TCGGGAGC	4751
285 GGCAUUUU G CCCGGCUC 3468 GAGCCGGG GGTAGCTACAACGA GAATGCC 4754 290 UUCGCCCG G CUCGAGGU 3469 ACCTCGAG GGCTAGCTACAACGA CGGGCGAA 4755 297 GGCUCGAG G UCCAGGU 3470 ATCCTGCA GGCTAGCTACAACGA CTCGAGC 4756 299 CUCGAGGU G CAGAGUG 3471 GCATCTGC GGCTAGCTACAACGA CCTGCACC 4758 304 GGUGCAGG A UGCAGACA 3472 GCTCTGCA GGCTAGCTACAACGA CCTGCACC 4758 306 UGCAGGAU G CAGAGCA 3473 TTGCTCTG GGCTAGCTACAACGA CTGCATC 4760 311 GAUGCAGA G CAAGGUGC 3474 GCACCACA GGCTAGCTACAACGA CTTGCTC 4760 316 AGACCAG G CUGCUGC 3475 CACCACCA GGCTAGCTACAACGA CTTGCTT 4761 312 AAGGUGCU G CUGGCCU 3477 ACGGCAGG GGCTAGCTACAACGA ACCACTT 4762 322 MCCUGGCG G UCGCCU 3479 CAGGGCGG GGCTAGCTACAACGA AGCACACA 4765 331 UGCCGCCU G UGGCCUU 3481 CACACAGG GGCTAGCTACAACGA AGGCCACA 4766 332 UGCUGGG G UGGCCCU 3481 CACACAGG GGCTAGCTACAACGA AGGCCACA 4767 <td>278</td> <td>AGUUCUGG G CAUUUCGC</td> <td>3466</td> <td>GCGAAATG</td> <td>GGCTAGCTACAACGA</td> <td>CCAGAACT</td> <td>4752</td>	278	AGUUCUGG G CAUUUCGC	3466	GCGAAATG	GGCTAGCTACAACGA	CCAGAACT	4752
290 UUCGCCCG G CUCGAGGU 3469 ACCTCGAG GGCTAGCTACAACGA CGGCGGAA 4755 297 GGCUCGAG G UGCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CTCGAGCC 4756 299 CUCGAGGU G CAGGAUG 3471 GCATCCTG GGCTAGCTACAACGA ACCTCGAG CTGAGGA ACCTCGAG AND GGUGCAGGA A UGCAGAGA 3472 GCTCTGCA GGCTAGCTACAACGA ACCTCGAC 4758 304 GGUGCAGG A UGCAGAGCA 3473 TTGCTCTG GGCTAGCTACAACGA ATCCTGCA 4759 311 GAUGCAGA G CAAGGUGC 3475 CAGCAGG GGCTAGCTACAACGA TCTGCTC 4761 316 AGAGCAAG G UGCUGCU 3475 CAGCACAG GGCTAGCTACAACGA CTTGCTC 4761 318 AGCAAGGU G CUGGCCCU 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTCT 4763 321 AAGGUGU G CUGGCCUC 3477 ACGGCCAG GGCTAGCTACAACGA ACCACTT 4763 328 UGCUGGCC G UCGCCUC 3479 CAGGGCAG GGCTAGCTACAACGA AGCACCT 4765 331 UGCCGCU G UGGCCUC 3479 CAGGGCA GGCTAGCTACAACGA AGGCCAC 4766 336 GUCCCCU G UGGCCUC 3481 CACACAGG GGCTAGCTACAACGA AGGGCCA 4766 331 UGCCGCU G UGGGAGA 3481 CACACAGG GGCTAGCTACAACGA AGGGCCA 4767 339 GCCCUGU G UGGGAGAC 3482 ACCCCAGG GCTAGCTACAACGA AGGCCAC 4769 346 GCCUGUG G CUUGGAGA 3483 TCTCCAC GGCTAGCTACAACGA ACGAGGC 4769 352 <	280	UUCUGGGC A UUUCGCCC	3467	GGGCGAAA	GGCTAGCTACAACGA	GCCCAGAA	4753
297 GGCUCGAG G UGCAGGAU 3470 ATCCTGCA GGCTAGCTACAACGA CTCGAGCC 4756 299 CUCGAGGU G CAGGAUGC 3471 GCATCCTG GGCTAGCTACAACGA ACCTGGAG 4757 304 GGUGCAGG A UGCAGAGC 3472 GCTCTGCA GGCTAGCTACAACGA ACCTGCAC 4758 306 UGCAGGAU G CAGAGCAA 3473 TTGCTG GGCTAGCTACAACGA ATCCTGCA 4759 311 GAUGCAGA G CAGAGUAC 3474 GCACCTG GGCTAGCTACAACGA ATCTGCAC 4760 316 ASAGCAAG G UGCUGCUG 3475 CAGCAGCA GGCTAGCTACAACGA CCTTGCTC 4761 318 AGCAAGGU G CUGCUGC 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTGCT 4761 318 AAGGUGCU G CUGCCUG 3477 ACGGCAG GGCTAGCTACAACGA ACCACCTT 4763 321 AAGGUGC G CUGGCCU 3478 GGCGACGG GGCTAGCTACAACGA ACCACCTT 4763 325 UGCUGGC G UCGCCUG 3479 CAGGGCGA GGCTAGCTACAACGA ACCACCT 4765 331 UGCCGCU G CCCUGUGG 3481 CACACAGG GGCTAGCTACAACGA AGGCCAC 4766 332 UCCCCUU G UGGCUU 3482 ACCCAGAG GGCTAGCTACAACGA AGGCCAC 4767 334 GUGCUCU G CUGGGCA 3484 GGCTAGCTACAACGA ACACGGC C 4766 344 GUGCUUG G UGGAGAC 3484 GGCTAGCTACAACGA CTCAACGC C 4769 345 GCCUUGGA A CCCGGGCC 3485 AGCACCAG GGCTAGCTACAACGA CTCAACGA CTCAACGA C ACACGAG C 4770	285	GGCAUUUC G CCCGGCUC	3468	GAGCCGGG	GGCTAGCTACAACGA	GAAATGCC	4754
299 CUCGAGGU G CAGGAUGC 3471 GCATCCTG GGCTAGCTACAACGA ACCTCGAG 4757 304 GGUGCAGG A UGCAGAGC 3472 GCTCTGCA GGCTAGCTACAACGA CCTGCACC 4758 306 UGCAGGAU G CAGAGCAA 3473 TTGCTCTG GGCTAGCTACAACGA TCTGCATC 4760 311 GAUGCAGA G CAAGGUGC 3474 GCACCTTG GGCTAGCTACAACGA TCTGCTT 4761 316 AGAGCAAG G UGCUGGC 3475 CAGCAGG GGCTAGCTACAACGA CTTGCTT 4761 318 ASCAAGGU G CUGGCCGU 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTGCT 4762 321 AAGGUGCU G CUGGCCUG 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTGCT 4764 322 DUCUGCUG G CUCUGCG 3476 CACAGGG GGCTAGCTACAACGA ACCAGCA ACCAGCA 4765 331 UGGCCUU G UGGCUUG 3481 CACACAGGG GGCTAGCTACAACGA ACCAGCA ACCAGCA 4766 332 HUCCCUU G UGGGAAC 3481 CACACAGGG GGCTAGCTACAACGA AGAGCCA 4768 344 GUGGCUUG G UCUGGCU 3482 ACCCAGGG GGCTACCAACGA AGAGCCA 4769 345 GCCUGUG G UCUGGCGU 3485 GCCCCGGG GGCTAGCTACAACGA AGAGCCA 4770 352	290	UUCGCCCG G CUCGAGGU	3469	ACCTCGAG	GGCTAGCTACAACGA	CGGGCGAA	4755
304 GGUGCAGG A UGCAGAGC 3472 GCTCTGCA GGCTAGCTACAACGA CCTGCACC 4758 306 UGCAGGAU G CAGAGCAA 3473 TTGCTCTG GGCTAGCTACAACGA ATCCTGCA 4759 311 GAUGCAGGA G CAAGGUCC 3474 GCACCTTG GGCTAGCTACAACGA CTTGCTAT 4760 318 AGCAAGGU G UGCUGCUG 3475 CAGCAGCA GGCTAGCTACAACGA CTTGCTCT 4761 318 AGCAAGGU G CUGCUGC 3476 GCCAGCAG GGCTAGCTACAACGA CTTGCTCT 4762 321 AAGGUGCU G CUGGCCGU 3477 ACGGCCAG GGCTAGCTACAACGA AGCACCTT 4763 322 UGCUGCU G CUGGCCGU 3478 GGCGAGGG GGCTAGCTACAACGA AGCACCAC 4764 328 UGCUGGCC G UCGCCCUG 3479 CAGGGCGA GGCTAGCTACAACGA AGCACCA 4764 328 UGCUGGCC G UCGCCCUG 3479 CAGGGCGA GGCTAGCTACAACGA AGCAGCA 4765 329 UGCUGCCU G UGGCCCU G 3481 CAGAGCCA GGCTAGCTACAACGA AGCACGC 4766 330 GCCCUGU G CCCUUGU G 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCCA 4766 331 UGGCGCU G UGGCCUU G 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCCA 4766 332 GCCCUGU G CCUUGCGU 3482 ACGCAGAG GGCTAGCTACAACGA AGGGCCA 4766 334 UGCUGCC G UGGAGAC 3483 TCTCCACG GGCTAGCTACAACGA AGAGCCAC 4769 346 GGCUCUU G CUGGAGAC 3484 GGTCTCCA GGCTAGCTACAACGA AGAGCCAC 4769 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGG GGCTAGCTACAACGA AGAGCCAC 4770 358 AGACCCGG G CCGCUCU 3486 AGAGGCGG GGCTAGCTACAACGA AGAGCCAC 4771 359 AGACCCGG G CCCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA AGAGCCAC 4772 361 CCCGGGCC G CUUCUGU 3487 CACAGAG GGCTAGCTACAACGA AGAGCCAC 4773 367 CCGCCUCU G UGGGUUU G 3487 CACAGAG GGCTAGCTACAACGA AGAGCCAC 4776 380 UUUGCCUA G UGUUUCU 3491 GAGAACA GGCTAGCTACAACGA AGAGCCAC 4776 380 UUUGCCUA G UGUUUCU 3491 GAGAACA GGCTAGCTACAACGA ACAGGA 4777 382 UGCUCUG G UUUGCCUA 3493 TAGGCAAA GGCTAGCTACAACGA ACTAGGCA 4776 380 UUUGCCUA G UUUUCUCU 3492 AACAGAAA GGCTAGCTACAACGA ACTAGGCA 4776 380 UUUGCCUA G UUUCUCU 3492 AACAGAAA GGCTAGCTACAACGA ACTAGGCA 4776 390 UUUCUCUA A UCAACAA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA	297	GGCUCGAG G UGCAGGAU	3470	ATCCTGCA	GGCTAGCTACAACGA	CTCGAGCC	4756
306 UGCAGGAU G CAGAGCAA 3473 TTGCTCTG GGCTAGCAACGA ATCCTGCA 4759	299	CUCGAGGU G CAGGAUGC	3471	GCATCCTG	GGCTAGCTACAACGA	ACCTCGAG	4757
311 GAUGCAGA G CAAGGUGC 3474 GCACCTTG GGCTAGCTACAACGA TCTGCATC 4760 316 AGAGCAAG G UGCUGGC 3475 CAGCAGCA GGCTAGCTACAACGA CTTGCTT 4761 318 AGCAAGGU G CUGCUGGC 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTGCT 4762 321 AAGGUGCU G CUGGCCGU 3477 ACGGCCAG GGCTAGCTACAACGA ACCTTGCT 4763 322 UGCUGCUG G CCGUCGCC 3478 GGCGACGG GGCTAGCTACAACGA ACACCAGCA 4764 328 UGCUGCCG G CCCUGUGG 3489 CAGCAGGG GGCTAGCTACAACGA CACCAGCA 4765 331 UGGCCGUC G CCCUGUGG 3480 CCACAGGG GGCTAGCTACAACGA GACGAGCA 4766 336 GUCGCCCU G UGGCCUCU 3481 CAGAGCCA GGCTAGCTACAACGA AGGCCACA 4767 339 GCCCUGUG G CUCUGCGU 3482 ACGCAGGG GGCTAGCTACAACGA AGGCCACA 4767 339 GCCCUGU G CUCUGCGU 3482 ACGCAGGG GGCTAGCTACAACGA AGGGCCAC 4768 344 GUGGCUCU G CGUGGAGA 3484 GTCTCCAG GGCTAGCTACAACGA AGAGCCAC 4769 3466 GGCUCUGC G UGGAGAC 3484 GGTCTCCA GGCTAGCTACAACGA AGAGCCAC 4769 3466 GGCUCUGC G UGGAGAC 3485 GGCCCGGG GGCTAGCTACAACGA ACAGGGC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CCCAGGC 4771 358 AGACCGG G CCGCCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CCCAGGG 4771 358 AGACCGG G CCGCCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CCCAGGG 4771 357 CCCGGGCC G CCUCUGU 3487 CACAAGAG GGCTAGCTACAACGA AGAGCCAC 4776 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGCCGG 4774 371 CUCUGUGG G UUUCUCU 3491 ACACTAGG GGCTAGCTACAACGA ACACGCGG 4776 380 UUUGCCUA 3490 ACACTAGG GGCTAGCTACAACGA ACACGACA 4776 380 UUUGCCUA 3491 GAGAAACA GGCTAGCTACAACGA ACACGACA 4776 380 UUUGCCUA 3491 AGAGAACA GGCTAGCTACAACGA ACACGACA 4776 382 UGCCUAGU G UUUCUCU 3492 AAGAGAACA GGCTAGCTACAACGA ACACGACA 4776 382 UCUCUCU G UGGCCAG G TAGGCTACAACGA AGAGCACA 4776 4782 47	304	GGUGCAGG A UGCAGAGC	3472	GCTCTGCA	GGCTAGCTACAACGA	CCTGCACC	4758
316 AGAGCAAG G UGCUGCU 3475 CAGCAGCA GGCTAGCTACAACGA CTTGCTT 4761 318 AGCAAGGU G CUGCUGGC 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTGCT 4762 321 AAGGUGCU G CUGCCC 3477 ACGGCCAG GGCTAGCTACAACGA ACCACCAC 4764 325 UGCUGCUG G CCGUCGC 3478 GGCGACGG GGCTAGCTACAACGA GGCCAGCA 4764 328 UGCUGCCU G UCGCCCUG 3479 CAGGGCGA GGCTAGCTACAACGA GGCCAGCA 4765 331 UGGCCCUG CCCUGUGG 3480 CCACAGGG GGCTAGCTACAACGA GGCCAGCA 4766 336 GUCGCCU G UGGCUCUG 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCCA 4767 339 GCCCUGUG G CUCUGGAGA 3482 ACCCAGGG GGCTAGCTACAACGA AGAGCCA 4769 346 GGCUCUG G UGGAGAC 3484 GGTCTCCA GGCTAGCTACAACGA CACAGGCC 4769 352 AGCGAGCG 3485 AGCCCGGG GCTAGCTACAACGA CACACGACC 4770 358 AGACCCGG G CCCCUU 3486 AGAGGCGG GGCTAGCTACAACGA CCCACAGG 4771 361 CCCGGGCC G CUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CACACGAG	306	UGCAGGAU G CAGAGCAA	3473	TTGCTCTG	GGCTAGCTACAACGA	ATCCTGCA	4759
318 AGCAAGGU G CUGCUGGC 3476 GCCAGCAG GGCTAGCTACAACGA ACCTTGCT 4762 321 AAGGUGCU G CUGGCCGU 3477 ACGGCCAG GGCTAGCTACAACGA ACCACTCT 4763 325 UGCUGCUG G CCGUGGCC 3478 GGCGACGG GGCTAGCTACAACGA ACCACGCA 4764 328 UGCUGGCC 3479 CAGGGCGA GGCTAGCTACAACGA GACGCACA 4765 331 UGGCCCU G UGGCUCUG 3480 CCACAGGG GGCTAGCTACAACGA GACGGCCA 4766 336 GUCGCCU G UGGCUCUG 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCGAC 4767 339 GCCUGUG G CUCUGCGU 3482 ACGCAGAG GGCTAGCTACAACGA ACACGGCC 4769 344 GUGGCUCU G CUGAGACA 3484 GGTCTCCA GGCTAGCTACAACGA ACACGCACCC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CTCCACGG 4771 358 AGAACCCGG C CCCCCCUU 3486 AGAGGCGG GGCTAGCTACAACGA CTCCACGG 4771 367 CCGCCCUU G UGGGUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCCACCAGG 4774 371 CUUCUGUG G UUUGCCUA 3489 TAGGCAAA GCCTAGCTACAACGA AAACCCACCACCACAC	311	GAUGCAGA G CAAGGUGC	3474	GCACCTTG	GGCTAGCTACAACGA	TCTGCATC	4760
321 AAGGUGCU G CUGGCCGU 3477 ACGGCCAG GGCTAGCTACAACGA AGCACCTT 4763 325 UGCUGCUG G CCGUCGC 3478 GGCGACGG GGCTAGCTACAACGA CAGCAGCA 4764 328 UGCUGGCC G UCGCCCUG 3479 CAGGGCGA GGCTAGCTACAACGA GGCCAGCA 4765 331 UGGCCGCC G CCCUGUGG 3480 CCACAGGG GGCTAGCTACAACGA GACGGCCA 4766 336 GUCGCCCU G UGGCUCUG 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCGA 4767 339 GCCCUGUG G CUCUGCGU 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCGA 4767 344 GUGGCUCU G UGGAGAC 3483 TCTCCACG GGCTAGCTACAACGA AGAGGCCA 4769 346 GGCUCUGC G UGGAGAC 3484 GGTCTCCA GGCTAGCTACAACGA AGAGGCCA 4769 346 GGCUCUGC G UGGAGAC 3484 GGTCTCCA GGCTAGCTACAACGA AGAGCCA 4769 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CACAGGC 4770 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CTCCACGC 4771 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CCGGGTCT 4772 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA AGAGGCCG 4773 371 CUCUGUGG G UUUGCCUA 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGGCGG 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA AAACCCA 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA AAACCCA 4776 381 UGCCUAGUG UUUCCCUU 3492 AAAGAAAA GGCTAGCTACAACGA ACAGAGAA 4777 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAAA GGCTAGCTACAACGA ACAGAGAA 4777 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAAA GGCTAGCTACAACGA ACAGAGAA 4778 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4778 407 CAGGCUCA G CUCAACAAA 3496 TTTGTATG GGCTAGCTACAACGA CAAGAGAA 4778 408 GCUCAGC A UACAAAAA 3496 TTTGTATG GGCTAGCTACAACGA CAGAGAA 4781 409 GGCUCAGC A UACAAAAA 3497 TTTTTTTG GGCTAGCTACAACGA CTGGGCCA 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA CTGGCCAG 4781 412 AAAAAGA A CAUACAAA 3499 TAAGTAATG GGCTAGCTACAACGA CTGGCCAG 4781 413 AAAAAGA A CAUACAAA 3499 TAAGTAATG GGCTAGCTACAACGA CTTTTTTT 4786 421 AAAAAGA A UACAAAAA 3499 TAAGTAATG GGCTAGCTACAACGA CTTTTTTT 4786 4221 AAAAAAGA A CAUACAAA 3499 TAAGTAATG GGCTAGCTACAACGA CTTTTTTT 4786 423 AAAGACAU A CUACAAAU 3500 TGTAAGTA GGCTACAACGA ATGTCTTTT 4786 423 AAAGACAU A CUAC	316	AGAGCAAG G UGCUGCUG	3475	CAGCAGCA	GGCTAGCTACAACGA	CTTGCTCT	4761
325 UGCUGCUG CCGUCGCC 3478 GGCGACGG GGCTAGCTACAACGA CAGCAGCA 4764 328 UGCUGGCC UCGCCCUG 3479 CAGGGCGA GGCTAGCTACAACGA GGCCAGCA 4765 331 UGGCCGUC GCCUGUGG 3480 CCACAGGG GGCTAGCTACAACGA GAGGCCA 4766 339 GCCCUGUG GUCUGCGU 3481 CAGAGAG GGCTAGCTACAACGA CAGGGC 4767 344 GUGGCGUC G CUCUGCGU 3482 ACGCCAGG GGCTAGCTACAACGA CAGAGGC 4768 344 GUGGUCUG G CUGGGCC 3484 GTCTCCA GGCTAGCTACAACGA CACAGGC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CCCCAGG 4771 351 CCCGGGCC G CUCUGUG 3486 AGAGCCGG GGCTAGCTACAACGA CCCCAGG 4771 361 CCCGGGCC G CUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA AGAGGCGG 4773 371 CUCUGUG	318	AGCAAGGU G CUGCUGGC	3476	GCCAGCAG	GGCTAGCTACAACGA	ACCTTGCT	4762
328 UGCUGGCC G UCGCCUG 3479 CAGGGCA GGCTAGCTACAACGA GGCCAGCA 4765 331 UGGCCGUC G CCCUGUGG 3480 CCACAGGG GGCTAGCTACAACGA GACGGCCA 4766 336 GUCGCCCU G UGGCUCUG 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCGAC 4767 339 GCCCUGUG G CUCUGCGU 3482 ACGCAGAG GGCTAGCTACAACGA AGGCCAC 4768 344 GUGGCUCU G CGUGGAGAC 3483 TCTCCACG GGCTAGCTACAACGA AGAGCCAC 4769 346 GGCUCUGC G UGGAGACC 3484 GGTCTCCA GGCTAGCTACAACGA GCAGAGCC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CCGGGGTC 4772 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CCGGGGTC 4773 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA CACAGAG 4775 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA AACCCAC 4776 382 UUCUCUUG A UCUCUUC 3492 AAGAGAAA GCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A U	321	AAGGUGCU G CUGGCCGU	3477	ACGGCCAG	GGCTAGCTACAACGA	AGCACCTT	4763
331 UGGCCGUC G CCCUGUGG 3480 CCACAGGG GGCTAGCTACAACGA GACGGCCA 4766 336 GUCGCCCU G UGGCUCUG 3481 CAGAGCCA GGCTAGCTACAACGA AGGGCGAC 4767 339 GCCCUGUG G CUCUGCGU 3482 ACGCAGAG GGCTAGCTACAACGA AGGGCGAC 4768 344 GUGGCUCU G CGUGGAGA 3483 TCTCCACG GGCTAGCTACAACGA AGAGCCAC 4769 346 GGCUCUGC G UGGAGAC 3484 GGTCTCCA GGCTAGCTACAACGA GCAGAGCC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CTCCACGC 4771 351 CCCGGGGCC G CCCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CGGCCGGG 4772 361 CCCGGGCC G CCUCUGUG 3488 CAAACCCA GGCTAGCTACAACGA CGGCCGGG 4773 362 CCGCCUCU G UGGGUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGGCGG 4776 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCCU 3491 GAGAAACA GGCTAGCTACAACGA AAACCCAC 4776 381 UUUGCCUA G UGUUUCCU 3491 GAGAAACA GGCTAGCTACAACGA AAACCCAC 4776 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCAA 4777 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 407 CAGGCUCA G CUAACAAA 3495 TTTGTATG GGCTAGCTACAACGA TGAGCCT 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTTTT GGCTAGCTACAACGA TGAGCCT 4782 410 CAGGCUA A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAGA 4784 411 CUCAGCAU A CAAAAAAA 3497 TTTTTTTTT GGCTAGCTACAACGA ATGCTGAGA 4784 412 ACAAAAAGA A CAUACAAA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAGA 4784 413 ACAAAAAGA A CAUACAAA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAGA 4784 414 ACAAAAAGA A CAUACAAA 3500 TTTAAGTA GGCTAGCTACAACGA ATGTCTTT 4785 421 AAAAAAGA A CAUACAAA 3500 TTTAAGTA GGCTAGCTACAACGA ATGTCTTT 4786 423 AAAGACAU A CUUACAA 3500 TTTAAGTA GGCTAGCTACAACGA ATGTCTTT 4787 424 ACAUACUU A CAAUAAAG 3500 TTTAATTG GGCTAGCTACAACGA ATGTCTTT 4786 436 CAAUUAAG G CUAAUACA 3504 TGTATTTG GG	325	ugcugcug g ccgucgcc	3478	GGCGACGG	GGCTAGCTACAACGA	CAGCAGCA	4764
336 GUCGCCU G UGGCUCUG 3481 CAGAGCCA GGCTAGCTACAACGA AGGCGAC 4767 339 GCCCUGUG G CUCUGCGU 3482 ACGCAGAG GGCTAGCTACAACGA CACAGGGC 4768 344 GUGGCUCU G CGUGGAGA 3483 TCTCCACG GGCTAGCTACAACGA AGAGCAC 4769 346 GGCUCUGC G UGGAGACC 3484 GGTCTCCA GGCTAGCTACAACGA GCAGAGCC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CCGCGTCT 4772 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA GCCCGGG 4773 367 CCGCCUCU G UGGGUUG 3487 CACAGAGG GGCTAGCTACAACGA GCCCGGG 4773 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGGCGG 4776 375 GUGGGUUU G CCUAGUGU 3491 GAGAAACA GGCTAGCTACAACGA CACAGAGA 4775 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA CACAGAGA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA AACCAC 4776 382 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 397 CUGCCCAG G CUCACCAU 3495 ATGCTGAG GGCTAGCTACAACGA CAAGAGAA 4779 398 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 397 CUUGCCAG G CUCACCAU 3495 ATGCTGAG GGCTAGCTACAACGA CAAGAGAA 4779 398 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 399 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAACAA 3495 TTTTTTTTT GGCTAGCTACAACGA CTTGGCAC 4781 407 CAGGCUCA C CAUACAAA 3496 TTTTTTTT GGCTAGCTACAACGA CTTGGCAC 4781 408 GGCUCAGC A UACAAAAA 3497 TTTTTTTT GGCTAGCTACAACGA CTTGTTTT 4785 421 AAAAAAGA A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTTT 4786 422 AAAAAAGA A CAUACUAA 3498 TCTTTTTT GGCTAGCTACAACGA CTTTTTTT 4786 423 AAAGACAU A CUUACAAU 3500 TCTAAGTA GGCTAGCTACAACGA CTTTTTTT 4786 423 AAAGACAU A CUUACAAU 3500 TCTAAGTA GGCTAGCTACAACGA CTTTTTTT 4786 424 AAAAAAGA A UACUACAA 3500 TCTAAGTA GGCTAGCTACAACGA CTTTTTTT 4787 427 ACAUACUU	328	UGCUGGCC G UCGCCCUG	3479	CAGGGCGA	GGCTAGCTACAACGA	GGCCAGCA	4765
339 GCCCUGUG G CUCUGCGU 3482 ACGCAGAG GGCTAGCTACAACGA CACAGGGC 4768 344 GUGGCUCU G CGUGGAGA 3483 TCTCCACG GGCTAGCTACAACGA AGAGCCAC 4769 346 GGCUCUGC G UGGAGACC 3484 GGTCTCCA GGCTAGCTACAACGA AGAGCCAC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CTCCACGC 4771 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CCGGGTCT 4772 361 CCCGGGCC G CCUCUGUG 3488 CAAACCCA GGCTAGCTACAACGA GGCCCGGG 4773 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGGCGG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUCU 3491 GAGAAACA GGCTAGCTACAACGA AAACCCAC 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCAA 4777 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4777 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 402 CUGGCCAG G CUCAGCAU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA AGATCAAG 4781 407 CAGGCUCA G CAUACAAA 3495 ATGCTGAG GGCTAGCTACAACGA AGATCAAG 4781 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA ATGAGCCT 4782 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAGC 4784 412 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4784 413 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4784 414 ACAAAAAG A CAUACUAA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4785 421 AAAAAGAC A UACUACAA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAACA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAACA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUACUU A CAAUACA 3501 ATTGTATG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUACUU A CAAUACA 3501 ATGTTATG GGCTAGCTACAACGA TGTAAGTA 4789 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TGTAATTG 4790	331	UGGCCGUC G CCCUGUGG	3480	CCACAGGG	GGCTAGCTACAACGA	GACGGCCA	4766
344 GUGGCUCU G CGUGGAGA 3483 TCTCCACG GGCTAGCTACAACGA AGAGCCAC 4769 346 GGCUCUGC G UGGAGACC 3484 GGTCTCCA GGCTAGCTACAACGA GCAGAGCC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CTCCACGC 4771 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CCGGGTCT 4772 361 CCCGGGCC G CCUCUGUG 3488 CAAACCCA GGCTAGCTACAACGA GGCCCGGG 4773 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGGCGG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUCU 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTAGG GGCTAGCTACAACGA AGAGAAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTAGG GGCTAGCTACAACGA AGAGAAA 4779 396 CUUGAUCU G CCCAGGCU 3495 ATGCTGGA GGCTAGCTACAACGA AGAGAAA 4779 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA AGAGCAC 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA ATGCCTGA 4784 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAGC 4784 412 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4784 413 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4784 414 ACAAAAAG A CAUACUAA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4785 421 AAAAAGAC A UACUACAA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAACA 3500 TGTAAGTA GGCTAGCTACAACGA ATGTCTTT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA ATGTCTTT 4788 431 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 432 AAAGCCUA A UACAACCA 3504 TGTATTTA GGCTAGCTACAACGA TGTAAGTA 4789 433 UACUUACA A UUAACACUC 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 444 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TGTAATTG 4790	336	GUCGCCCU G UGGCUCUG	3481	CAGAGCCA	GGCTAGCTACAACGA	AGGGCGAC	4767
346 GGCUCUGC G UGGAGACC 3484 GGTCTCCA GGCTAGCTACAACGA GCAGAGCC 4770 352 GCGUGGAG A CCCGGGCC 3485 GGCCCGGG GGCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CTCCACGC 4771 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA CCGGGTCT 4772 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCAACGA CCACAGAG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA AAACCCAC 4776 382 UGCCUAGU G UUUUCUCU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA AGATCAAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA TGAGCCTG 4784 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 412 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTG 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA ATGCTTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGCTTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA ATGTCTTT 4788 430 UACUUACA A UUAACGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTAATTA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA ATGTAATTG 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA ATGTAATTG 4789 437 ACAUACUU A CAAAUACA 3504 TGTATTAG GGCTAGCTACAACGA ATGTAATTG 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA ATGTAATTG 4789	339	GCCCUGUG G CUCUGCGU	3482	ACGCAGAG	GGCTAGCTACAACGA	CACAGGGC	4768
352 GCGUGGAG A CCCGGGCC 3485 GGCCCGG GGCTAGCTACAACGA CTCCACGC 4771 358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CCGGGTCT 4772 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA GGCCCGGG 4773 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA AGAGGCGG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA AAACCCAC 4777 382 UGCCUAGU G UUUUCUCU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTAT GGCTAGCTACAACGA TGAGCCTG 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAGA A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAGA A CAUACUAA 3500 TGTAAGTA GGCTAGCTACAACGA TGCTGAG 4784 421 AAAAAGAC A UACUACAA 3500 TGTAAGTA GGCTAGCTACAACGA ATGCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGCTTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAACA 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4789 437 ACAUACUU A CAAUAACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 438 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 440 UAAAGGCUA A UACAACUU 3505 GAGTTGTA GGCTTACAACGA TGACCTTA 4790	344	GUGGCUCU G CGUGGAGA	3483	TCTCCACG	GGCTAGCTACAACGA	AGAGCCAC	4769
358 AGACCCGG G CCGCCUCU 3486 AGAGGCGG GGCTAGCTACAACGA CCGGGTCT 4772 361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA GGCCCGGG 4773 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA CCACAGAG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUUCUCU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAGAGAAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAGAGAAA 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGCCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCT 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA CTTGAGCC 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTTT 4786 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 422 AAAAGACA A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGCTTTT 4787 427 ACAUACUU A CAAUAAAG 3502 CTTAATTG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAACA 3502 CTTAATTG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAAGGCUA A UACAACU 3505 GAGTTGTA GGCTACAACGA TAGCCTTA 4791	346	GGCUCUGC G UGGAGACC	3484	GGTCTCCA	GGCTAGCTACAACGA	GCAGAGCC	4770
361 CCCGGGCC G CCUCUGUG 3487 CACAGAGG GGCTAGCTACAACGA GGCCCGGG 4773 367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA CCACAGAG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA ACTAGGCA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA CAAGAGAA 4779 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA ATGCTGAGC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTG 4785 421 AAAAAGAC A UACUUACAA 3500 TGTAAGTA GGCTAGCTACAACGA ATGCTTAG 4782 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGCTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGCTTTT 4787 427 ACAUACUU A CAAUAAG 3502 CTTAATTG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAAG 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTAATTG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TGTAAGTA 4789	352	GCGUGGAG A CCCGGGCC	3485	GGCCCGGG	GGCTAGCTACAACGA	CTCCACGC	4771
367 CCGCCUCU G UGGGUUUG 3488 CAAACCCA GGCTAGCTACAACGA AGAGGCGG 4774 371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA CCACAGAG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGGG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA ATGCTGGG 4784 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTTT 4786 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA ATGCTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAAG 3502 CTTAATTG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUAAG 3504 TGTAATTG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUACA A UACAACAC 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 437 ACAUACUU A CAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 438 CAAUUACA A UACAACAC 3505 GAGTTGTA GGCTAGCTACAACGA TGTAATTG 4790 440 UAAGGCUA A UACAACAC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	358	AGACCCGG G CCGCCUCU	3486	AGAGGCGG	GGCTAGCTACAACGA	CCGGGTCT	4772
371 CUCUGUGG G UUUGCCUA 3489 TAGGCAAA GGCTAGCTACAACGA CCACAGAG 4775 375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGCTTTT 4787 427 ACAUACUU A CAAUAAG 3502 CTTAATTG GGCTAGCTACAACGA ATGTCTTT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3505 GAGTTGTA GGCTAGCTACAACGA TTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	361	CCCGGGCC G CCUCUGUG	3487	CACAGAGG	GGCTAGCTACAACGA	GGCCCGGG	4773
375 GUGGGUUU G CCUAGUGU 3490 ACACTAGG GGCTAGCTACAACGA AAACCCAC 4776 380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA CTTAATTG 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4789 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	367	CCGCCUCU G UGGGUUUG	3488	CAAACCCA	GGCTAGCTACAACGA	AGAGGCGG	4774
380 UUUGCCUA G UGUUUCUC 3491 GAGAAACA GGCTAGCTACAACGA TAGGCAAA 4777 382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA TGTAAGTA 4789 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	371	CUCUGUGG G UUUGCCUA	3489	TAGGCAAA	GGCTAGCTACAACGA	CCACAGAG	4775
382 UGCCUAGU G UUUCUCUU 3492 AAGAGAAA GGCTAGCTACAACGA ACTAGGCA 4778 392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	375	GUGGGUUU G CCUAGUGU	3490	ACACTAGG	GGCTAGCTACAACGA	AAACCCAC	4776
392 UUCUCUUG A UCUGCCCA 3493 TGGGCAGA GGCTAGCTACAACGA CAAGAGAA 4779 396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA ATGCTGAG 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	380	UUUGCCUA G UGUUUCUC	3491	GAGAAACA	GGCTAGCTACAACGA	TAGGCAAA	4777
396 CUUGAUCU G CCCAGGCU 3494 AGCCTGGG GGCTAGCTACAACGA AGATCAAG 4780 402 CUGCCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAGA CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	382	UGCCUAGU G UUUCUCUU	3492	AAGAGAAA	GGCTAGCTACAACGA	ACTAGGCA	4778
402 CUGCCAG G CUCAGCAU 3495 ATGCTGAG GGCTAGCTACAACGA CTGGGCAG 4781 407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	392	UUCUCUUG A UCUGCCCA	3493	TGGGCAGA	GGCTAGCTACAACGA	CAAGAGAA	4779
407 CAGGCUCA G CAUACAAA 3496 TTTGTATG GGCTAGCTACAACGA TGAGCCTG 4782 409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	396	CUUGAUCU G CCCAGGCU	3494	AGCCTGGG	GGCTAGCTACAACGA	AGATCAAG	4780
409 GGCUCAGC A UACAAAAA 3497 TTTTTGTA GGCTAGCTACAACGA GCTGAGCC 4783 411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	402	CUGCCCAG G CUCAGCAU	3495	ATGCTGAG	GGCTAGCTACAACGA	CTGGGCAG	4781
411 CUCAGCAU A CAAAAAGA 3498 TCTTTTTG GGCTAGCTACAACGA ATGCTGAG 4784 419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	407	CAGGCUCA G CAUACAAA	3496	TTTGTATG	GGCTAGCTACAACGA	TGAGCCTG	4782
419 ACAAAAAG A CAUACUUA 3499 TAAGTATG GGCTAGCTACAACGA CTTTTTGT 4785 421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	409	GGCUCAGC A UACAAAAA	3497	TTTTTGTA	GGCTAGCTACAACGA	GCTGAGCC	4783
421 AAAAAGAC A UACUUACA 3500 TGTAAGTA GGCTAGCTACAACGA GTCTTTT 4786 423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	411	CUCAGCAU A CAAAAAGA	3498	TCTTTTTG	GGCTAGCTACAACGA	ATGCTGAG	4784
423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	419	ACAAAAG A CAUACUUA	3499	TAAGTATG	GGCTAGCTACAACGA	CTTTTTGT	4785
423 AAAGACAU A CUUACAAU 3501 ATTGTAAG GGCTAGCTACAACGA ATGTCTTT 4787 427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	421	AAAAAGAC A UACUUACA	3500	TGTAAGTA	GGCTAGCTACAACGA	GTCTTTTT	4786
427 ACAUACUU A CAAUUAAG 3502 CTTAATTG GGCTAGCTACAACGA AAGTATGT 4788 430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	423	AAAGACAU A CUUACAAU	3501	ATTGTAAG	GGCTAGCTACAACGA	ATGTCTTT	
430 UACUUACA A UUAAGGCU 3503 AGCCTTAA GGCTAGCTACAACGA TGTAAGTA 4789 436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	427	ACAUACUU A CAAUUAAG	3502	CTTAATTG	GGCTAGCTACAACGA	AAGTATGT	
436 CAAUUAAG G CUAAUACA 3504 TGTATTAG GGCTAGCTACAACGA CTTAATTG 4790 440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	430	UACUUACA A UUAAGGCU	3503	AGCCTTAA	GGCTAGCTACAACGA	TGTAAGTA	
440 UAAGGCUA A UACAACUC 3505 GAGTTGTA GGCTAGCTACAACGA TAGCCTTA 4791	436	CAAUUAAG G CUAAUACA	3504 .	TGTATTAG	GGCTAGCTACAACGA	CTTAATTG	
442 AGGCUAAU A CAACUCUU 3506 AAGAGTTG GGCTAGCTACAACGA ATTAGCCT 4792	440	UAAGGCUA A UACAACUC	3505	GAGTTGTA	GGCTAGCTACAACGA	TAGCCTTA	4791
	442	AGGCUAAU A CAACUCUU	3506	AAGAGTTG	GGCTAGCTACAACGA	ATTAGCCT	

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445	CUAAUACA A CUCUU			GGCTAGCTACAACGA		4793
454	CUCUUCAA A UUACU			GGCTAGCTACAACGA		4794
457	UUCAAAUU A CUUGC			GGCTAGCTACAACGA		4795
461	AAUUACUU G CAGGG			GGCTAGCTACAACGA		4796
468	UGCAGGGG A CAGAG			GGCTAGCTACAACGA		4797
476	ACAGAGGG A CUUGG			GGCTAGCTACAACGA		4798
482	GGACUUGG A CUGGC		AAAGCCAG	GGCTAGCTACAACGA	CCAAGTCC	4799
486	UUGGACUG G CUUUG		GGCCAAAG	GGCTAGCTACAACGA	CAGTCCAA	4800
492	UGGCUUUG G CCCAA	JAA 3515	TTATTGGG	GGCTAGCTACAACGA	CAAAGCCA	4801
497	UUGGCCCA A UAAUC	AGA 3516	TCTGATTA	GGCTAGCTACAACGA	TGGGCCAA	4802
500	GCCCAAUA A UCAGA	3517	CACTCTGA	GGCTAGCTACAACGA	TATTGGGC	4803
506	UAAUCAGA G UGGCA	GUG 3518	CACTGCCA	GGCTAGCTACAACGA	TCTGATTA	4804
509	UCAGAGUG G CAGUG	AGC 3519	GCTCACTG	GGCTAGCTACAACGA	CACTCTGA	4805
512	GAGUGGCA G UGAGC	AAA 3520	TTTGCTCA	GGCTAGCTACAACGA	TGCCACTC	4806
516	GGCAGUGA G CAAAG	3521	ACCCTTTG	GGCTAGCTACAACGA	TCACTGCC	4807
523	AGCAAAGG G UGGAG	GUG 3522	CACCTCCA	GGCTAGCTACAACGA	CCTTTGCT	4808
529	GGGUGGAG G UGACU	GAG 3523	CTCAGTCA	GGCTAGCTACAACGA	CTCCACCC	4809
532	UGGAGGUG A CUGAG	JGC 3524	GCACTCAG	GGCTAGCTACAACGA	CACCTCCA	4810
537	GUGACUGA G UGCAG	CGA 3525	TCGCTGCA	GGCTAGCTACAACGA	TCAGTCAC	4811
539	GACUGAGU G CAGCG	AUG 3526	CATCGCTG	GGCTAGCTACAACGA	ACTCAGTC	4812
542	UGAGUGCA G CGAUG	3CC 3527	GGCCATCG	GGCTAGCTACAACGA	TGCACTCA	4813
545	GUGCAGCG A UGGCC	JCU 3528	AGAGGCCA	GGCTAGCTACAACGA	CGCTGCAC	4814
548	CAGCGAUG G CCUCU	JCU 3529	AGAAGAGG	GGCTAGCTACAACGA	CATCGCTG	4815
557	CCUCUUCU G UAAGA	CAC 3530	GTGTCTTA	GGCTAGCTACAACGA	AGAAGAGG	4816
562	UCUGUAAG A CACUC	ACA 3531	TGTGAGTG	GGCTAGCTACAACGA	CTTACAGA	4817
564	UGUAAGAC A CUCAC	AAU 3532	ATTGTGAG	GGCTAGCTACAACGA	GTCTTACA	4818
568	AGACACUC A CAAUU	CCA 3533	TGGAATTG	GGCTAGCTACAACGA	GAGTGTCT	4819
571	CACUCACA A UUCCA	AAA 3534	TTTTGGAA	GGCTAGCTACAACGA	TGTGAGTG	4820
580	UUCCAAAA G UGAUC	GGA 3535	TCCGATCA	GGCTAGCTACAACGA	TTTTGGAA	4821
583	CAAAAGUG A UCGGA	AAU 3536	ATTTCCGA	GGCTAGCTACAACGA	CACTTTTG	4822
590	GAUCGGAA A UGACA	CUG 3537	CAGTGTCA	GGCTAGCTACAACGA	TTCCGATC	4823
593	CGGAAAUG A CACUG	GAG 3538	CTCCAGTG	GGCTAGCTACAACGA	CATTTCCG	4824
595	GAAAUGAC A CUGGA	3CC 3539	GGCTCCAG	GGCTAGCTACAACGA	GTCATTTC	4825
601	ACACUGGA G CCUAC	AAG 3540	CTTGTAGG	GGCTAGCTACAACGA	TCCAGTGT	4826
605	UGGAGCCU A CAAGU	3CU 3541	AGCACTTG	GGCTAGCTACAACGA	AGGCTCCA	4827
609	GCCUACAA G UGCUU	CUA 3542	TAGAAGCA	GGCTAGCTACAACGA	TTGTAGGC	4828
611	CUACAAGU G CUUCU	ACC 3543		GGCTAGCTACAACGA		4829
617	GUGCUUCU A CCGGG	AAA 3544		GGCTAGCTACAACGA		4830
625	ACCGGGAA A CUGACI	JUG 3545		GGCTAGCTACAACGA		4831
629	GGAAACUG A CUUGG			GGCTAGCTACAACGA		4832
634	CUGACUUG G CCUCGO			GGCTAGCTACAACGA		4833
640	UGGCCUCG G UCAUUI			GGCTAGCTACAACGA		4834
643	CCUCGGUC A UUUAU			GGCTAGCTACAACGA		4835
647	GGUCAUUU A UGUCU			GGCTAGCTACAACGA		4836
649	UCAUUUAU G UCUAU			GGCTAGCTACAACGA		4837
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655	AUGUCUAU G UUCAA			GGCTAGCTACAACGA		4839
662	UGUUCAAG A UUACA			GGCTAGCTACAACGA	·	4840
665	UCAAGAUU A CAGAU			GGCTAGCTACAACGA		4841
669	GAUUACAG A UCUCC			GGCTAGCTACAACGA		4842
675	AGAUCUCC A UUUAU			GGCTAGCTACAACGA		4843
679	CUCCAUUU A UUGCUI			GGCTAGCTACAACGA		4844
682	CAUUUAUU G CUUCUO			GGCTAGCTACAACGA		4845
		2201 2222	Tarragang	ADDIAGCTACHACGA	TUTUMATA	4040

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692	UUCUGUUA G UGACCAAC	3561	GTTGGTCA	GGCTAGCTACAACGA	TAACAGAA	4847
695	UGUUAGUG A CCAACAUG	3562	CATGTTGG	GGCTAGCTACAACGA	CACTAACA	4848
699	AGUGACCA A CAUGGAGU	3563	ACTCCATG	GGCTAGCTACAACGA	TGGTCACT	4849
701	UGACCAAC A UGGAGUCG	3564	CGACTCCA	GGCTAGCTACAACGA	GTTGGTCA	4850
706	AACAUGGA G UCGUGUAC	3565	GTACACGA	GGCTAGCTACAACGA	TCCATGTT	4851
709	AUGGAGUC G UGUACAUU	3566	AATGTACA	GGCTAGCTACAACGA	GACTCCAT	4852
711	GGAGUCGU G UACAUUAC	3567	GTAATGTA	GGCTAGCTACAACGA	ACGACTCC	4853
713	AGUCGUGU A CAUUACUG	3568	CAGTAATG	GGCTAGCTACAACGA	ACACGACT	4854
715	UCGUGUAC A UUACUGAG	3569	CTCAGTAA	GGCTAGCTACAACGA	GTACACGA	4855
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725	UACUGAGA A CAAAAACA	3571	TGTTTTTG	GGCTAGCTACAACGA	TCTCAGTA	4857
731	GAACAAAA A CAAAACUG	3572	CAGTTTTG	GGCTAGCTACAACGA	TTTTGTTC	4858
736	AAAACAAA A CUGUGGUG	3573	CACCACAG	GGCTAGCTACAACGA	TTTGTTTT	4859
739	ACAAAACU G UGGUGAUU	3574	AATCACCA	GGCTAGCTACAACGA	AGTTTTGT	4860
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750	GUGAUUCC A UGUCUCGG	3577	CCGAGACA	GGCTAGCTACAACGA	GGAATCAC	4863
752	GAUUCCAU G UCUCGGGU	3578	ACCCGAGA	GGCTAGCTACAACGA	ATGGAATC	4864
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770	CAUUUCAA A UCUCAACG	3581	CGTTGAGA	GGCTAGCTACAACGA	TTGAAATG	4867
776	AAAUCUCA A CGUGUCAC	3582	GTGACACG	GGCTAGCTACAACGA	TGAGATTT	4868
778	AUCUCAAC G UGUCACUU	3583	AAGTGACA	GGCTAGCTACAACGA	GTTGAGAT	4869
780	CUCAACGU G UCACUUUG	3584	CAAAGTGA	GGCTAGCTACAACGA	ACGTTGAG	4870
783	AACGUGUC A CUUUGUGC	3585	GCACAAAG	GGCTAGCTACAACGA	GACACGTT	4871
788	GUCACUUU G UGCAAGAU	3586	ATCTTGCA	GGCTAGCTACAACGA	AAAGTGAC	4872
790	CACUUUGU G CAAGAUAC	3587	GTATCTTG	GGCTAGCTACAACGA	ACAAAGTG	4873
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862	GCUUUACU A UUCCCAGC	3600	GCTGGGAA	GGCTAGCTACAACGA	AGTAAAGC	4886
869	UAUUCCCA G CUACAUGA	3601	TCATGTAG	GGCTAGCTACAACGA	TGGGAATA	4887
872	UCCCAGCU A CAUGAUCA	3602	TGATCATG	GGCTAGCTACAACGA	AGCTGGGA	4888
874	CCAGCUAC A UGAUCAGC	3603	GCTGATCA	GGCTAGCTACAACGA	GTAGCTGG	4889
877	GCUACAUG A UCAGCUAU	3604	ATAGCTGA	GGCTAGCTACAACGA	CATGTAGC	4890
881	CAUGAUCA G CUAUGCUG	3605	CAGCATAG	GGCTAGCTACAACGA	TGATCATG	4891
884	GAUCAGCU A UGCUGGCA	3606	TGCCAGCA	GGCTAGCTACAACGA	AGCTGATC	4892
886	UCAGCUAU G CUGGCAUG	3607	CATGCCAG	GGCTAGCTACAACGA	ATAGCTGA	4893
890	CUAUGCUG G CAUGGUCU	3608		GGCTAGCTACAACGA		4894
892	AUGCUGGC A UGGUCUUC	3609	GAAGACCA	GGCTAGCTACAACGA	GCCAGCAT	4895
895	CUGGCAUG G UCUUCUGU	3610		GGCTAGCTACAACGA		4896
902	GGUCUUCU G UGAAGCAA	3611		GGCTAGCTACAACGA		4897
907	UCUGUGAA G CAAAAAUU	3612	AATTTTTG	GGCTAGCTACAACGA	TTCACAGA	4898
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937	ACCAGUCU A UUAUGUAC	3619	GTACATAA	GGCTAGCTACAACGA	AGACTGGT	4905
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993	CUGAGUCC G UCUCAUGG	3636	CCATGAGA	GGCTAGCTACAACGA	GGACTCAG	4922
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	GGAUUCCU A CCAGUACG			GGCTAGCTACAACGA		5055
	UCCUACCA G UACGGCAC			GGCTAGCTACAACGA		5056
1613	CUACCAGU A CGGCACCA	3771	TGGTGCCG	GGCTAGCTACAACGA	ACTGGTAG	5057

			15.1
1616	CCAGUACG G CACCACUC	3772	GAGTGGTG GGCTAGCTACAACGA CGTACTGG 5058
1618	AGUACGGC A CCACUCAA	3773	TTGAGTGG GGCTAGCTACAACGA GCCGTACT 5059
1621	ACGGCACC A CUCAAACG	3774	CGTTTGAG GGCTAGCTACAACGA GGTGCCGT 5060
1627	CCACUCAA A CGCUGACA	3775	TGTCAGCG GGCTAGCTACAACGA TTGAGTGG 5061
1629	ACUCAAAC G CUGACAUG	3776	CATGTCAG GGCTAGCTACAACGA GTTTGAGT 5062
1633	AAACGCUG A CAUGUACG	3777	CGTACATG GGCTAGCTACAACGA CAGCGTTT 5063
1635	ACGCUGAC A UGUACGGU	3778	ACCGTACA GGCTAGCTACAACGA GTCAGCGT 5064
1637	GCUGACAU G UACGGUCU	3779	AGACCGTA GGCTAGCTACAACGA ATGTCAGC 5065
1639	UGACAUGU A CGGUCUAU	3780	ATAGACCG GGCTAGCTACAACGA ACATGTCA 5066
1642	CAUGUACG G UCUAUGCC	3781	GGCATAGA GGCTAGCTACAACGA CGTACATG 5067
1646	UACGGUCU A UGCCAUUC	3782	GAATGGCA GGCTAGCTACAACGA AGACCGTA 5068
1648	CGGUCUAU G CCAUUCCU	3783	AGGAATGG GGCTAGCTACAACGA ATAGACCG 5069
1651	UCUAUGCC A UUCCUCCC	3784	GGGAGGAA GGCTAGCTACAACGA GGCATAGA 5070
1662	CCUCCCCC G CAUCACAU	3785	ATGTGATG GGCTAGCTACAACGA GGGGGAGG 5071
1664	UCCCCCGC A UCACAUCC	3786	GGATGTGA GGCTAGCTACAACGA GCGGGGGA 5072
1667	CCCGCAUC A CAUCCACU	3787	AGTGGATG GGCTAGCTACAACGA GATGCGGG 5073
1669	CGCAUCAC A UCCACUGG	3788	CCAGTGGA GGCTAGCTACAACGA GTGATGCG 5074
<u> </u>	UCACAUCC A CUGGUAUU	3789	AATACCAG GGCTAGCTACAACGA GGATGTGA 5075
1677	AUCCACUG G UAUUGGCA	3790	TGCCAATA GGCTAGCTACAACGA CAGTGGAT 5076
	CCACUGGU A UUGGCAGU	3791	ACTGCCAA GGCTAGCTACAACGA ACCAGTGG 5077
	UGGUAUUG G CAGUUGGA	3792	TCCAACTG GGCTAGCTACAACGA CAATACCA 5078
	UAUUGGCA G UUGGAGGA	3793	TCCTCCAA GGCTAGCTACAACGA TGCCAATA 5079
	GAGGAAGA G UGCGCCAA	3794	TTGGCGCA GGCTAGCTACAACGA TCTTCCTC 5080
	GGAAGAGU G CGCCAACG	3795	CGTTGGCG GGCTAGCTACAACGA ACTCTTCC 5081
	AAGAGUGC G CCAACGAG	3796	CTCGTTGG GGCTAGCTACAACGA GCACTCTT 5082
	GUGCGCCA A CGAGCCCA	3797	TGGGCTCG GGCTAGCTACAACGA TGGCGCAC 5083
	GCCAACGA G CCCAGCCA	3798	TGGCTGGG GGCTAGCTACAACGA TCGTTGGC 5084
	CGAGCCCA G CCAAGCUG	3799	
	CCAGCCAA G CUGUCUCA	3800	
	GCCAAGCU G UCUCAGUG	3801	
	CUGUCUCA G UGACAAAC	3802	
	UCUCAGUG A CAAACCCA	3802	
	AGUGACAA A CCCAUACC	3804	TGGGTTTG GGCTAGCTACAACGA CACTGAGA 5089
	ACAAACCC A UACCCUUG		GGTATGGG GGCTAGCTACAACGA TTGTCACT 5090
	AAACCCAU A CCCUUGUG	3805	CAAGGGTA GGCTACAACGA GGGTTTGT 5091
		3806	CACAAGGG GGCTAGCTACAACGA ATGGGTTT 5092
	AUACCCUU G UGAAGAAU	3807	ATTCTTCA GGCTAGCTACAACGA AAGGGTAT 5093
	UGUGAAGA A UGUGGAGA	3808	CTTCTCCA GGCTAGCTACAACGA TCTTCACA 5094
	AUGGAGAA G UGUGGAGG	3809	CCTCCACA GGCTAGCTACAACGA TTCTCCAT 5095
	GGAGAAGU G UGGAGGAC		GTCCTCCA GGCTAGCTACAACGA ACTTCTCC 5096
	UGUGGAGG A CUUCCAGG	3811	CCTGGAAG GGCTAGCTACAACGA CCTCCACA 5097
·	GGGAGGAA A UAAAAUUG	3812	CAATTTTA GGCTAGCTACAACGA TTCCTCCC 5098
	GAAAUAAA A UUGAAGUU	3813	AACTTCAA GGCTAGCTACAACGA TTTATTTC 5099
	AAAUUGAA G UUAAUAAA	3814	TTTATTAA GGCTAGCTACAACGA TTCAATTT 5100
	UGAAGUUA A UAAAAAUC	3815	GATTTTTA GGCTAGCTACAACGA TAACTTCA 5101
	UAAUAAAA A UCAAUUUG	3816	CAAATTGA GGCTAGCTACAACGA TTTTATTA 5102
	AAAAAUCA A UUUGCUCU	3817	AGAGCAAA GGCTAGCTACAACGA TGATTTTT 5103
	AUCAAUUU G CUCUAAUU	3818	AATTAGAG GGCTAGCTACAACGA AAATTGAT 5104
	UUGCUCUA A UUGAAGGA	3819	TCCTTCAA GGCTAGCTACAACGA TAGAGCAA 5105
_	AGGAAAAA A CAAAACUG	3820	CAGTTTTG GGCTAGCTACAACGA TTTTTCCT 5106
	AAAACAAA A CUGUAAGU	3821	ACTTACAG GGCTAGCTACAACGA TTTGTTTT 5107
	ACAAAACU G UAAGUACC	3822	GGTACTTA GGCTAGCTACAACGA AGTTTTGT 5108
	AACUGUAA G UACCCUUG	3823	CAAGGGTA GGCTAGCTACAACGA TTACAGTT 5109
1849	CUGUAAGU A CCCUUGUU	3824	AACAAGGG GGCTAGCTACAACGA ACTTACAG 5110

1855 GUACCICUI G UUNUCCAA 3825 TTGGATAA GGCTAGCTACGACGA AAGGGTAC 5111 1866 UUNUCCAA G CGGCANAU 3827 ATTTGCCG GGCTAGCTACAGAG ACTGGA 5113 1867 UUCCAAGCG G CARAUGUG 3828 CACATTTG GGCTAGCTACAACGA TTGGATAA 5113 1867 UCCAAGCG C CARAUGUG 3828 CACATTTG GGCTAGCTACAACGA TTGGATAA 5114 1871 AGCGGCAA A UGUCCACG 3829 CTGGACAA GGCTAGCTACAACGA TTGCCCT 5115 1872 GGCAAGUU G UUCGCCUU 3830 AGCTGACA GGCTAGCTACAACGA ATTTGCCC 5116 1875 GCAAGUUU G UCCACAUU 3831 AAGGTCA GGCTAGCTACAACGA ATTTGCCC 5117 1879 AUGURUCA G CUUUGUAC 3832 CATACAAG GGCTAGCTACAACGA ACATTTGC 5117 1886 AGCUUUU G UACAAAUG 3833 CATTTGTA GGCTAGCTACAACGA AAAGCTGA 5118 1886 AGCUUUU A CAAAAUG 3833 CATTTGTA GGCTAGCTACAACGA AAAAGCTGA 5119 1890 UUQUACAA A UUUGAAGC 3835 CCCCCTTCA GGCTAGCTACAACGA ATTGTACAA 5121 1891 AUGURUCA A CAAAGCG 3836 CCCCCTTCA GGCTAGCTACAACGA ACTTGCC 5124 1892 AAGGGUCA A CAAAGCG 3836 CCCCCTTCA GGCTAGCTACAACGA ATTGTACAA 5121 1890 GUAAAAG G UCAACAAA 3838 TTTGTGA GGCTAGCTACAACGA ATTGTACAA 5122 1900 GUAAAAG G UCAACAAA 3838 TTTGTGA GGCTAGCTACAACGA ATTGTACAA 5122 1900 GUAAAAG G UCAACAAA 3838 TTTGTGA GGCTAGCTACAACGA ATTGTACAA 5124 1904 ACCGGUCA A CAAAGUCC 3841 GGAAGCA GGCTACCTACAACGA ATTGTACAA 5125 1927 AGAGAAGG G UGAACCAA 3843 TTTGTGA GGCTAGCTACAACGA TTCCTCTC 5125 1940 CUCCUUCC A CUUGCACA 3843 TTGGTCAG GGCTAGCTACAACGA CTCTCTC 5126 1942 CUCCUUCC A CUUGCACA 3843 TGGTCACC GGCTAGCTACAACGA CTCTCTC 5127 1945 UCCAGCGG G UGAACCA 3844 TCTCCCGA GGCTAGCTACAACGA CTCTCTC 5127 1945 UCCAGCGG G CAAGCGG G GAAG GGCTAGCTACAACGA CTCTCTC 5128 1946 CUCCUUCC A CUUGCACA 3846 TCTCCCGA GGCTAGCTACAACGA CTCTCTC 5127 1945 UCCAGCGG G UGAACCA 3846 TCTCCCGA GGCTAGCTACAACGA CTCTCTCC 5127 1946 CUCCUUCC A CUUGCACA 3846 TCTCCGG GGCTAGCTACAACGA CTCTCTCC 5127 1946 CUCCUUCC A CUUGCACA 3846 TCTCCGG GGCTAGCTACAACGA CACTAGGA CTCCTCCTC 5129						
1864 UNAUCCAA G CGCCAAN 3827 ATTTGCCG GGCTAGCTACAACGA TTGGATAA 5113 1867 UCCAAGGG G CAANUGUG 3828 ACACTTG GGCTAGCTACAACGA CGCTTGGAT 5114 1871 AGGGCAA A UGUUCLAG 3829 CTGACACA GGCTAGCTACAACGA CGCTTGCGCT 5115 1872 GGCAANUG G UCUCAGCU 3830 AGGCTGACG GGCTAGCTACAACGA ACTTTGCC 5116 1875 GCAANUGU G UCUCAGCU 3831 AAAGCTGA GGCTAGCTACAACGA ACATTTGC 5117 1876 AUGUUCLA G CUUUGUAC 3831 AAAGCTGA GGCTAGCTACAACGA ACATTTGC 5117 1877 AUGUUCLA G CUUUGUAC 3832 CTACAAAG GGCTAGCTACAACGA TGACACAT 5118 1886 AGCUUU G UACAAAUG 3833 CATTCTA GGCTAGCTACAACGA ACAAGCT 5119 1886 AGCUUU G UACAAAUG 3833 CATTCTAC GGCTAGCTACAACGA ACAAGCT 5120 1890 UUGUACAA A UGUGAAGC 3833 CCTTCACA GGCTAGCTACAACGA TTGTCACA 5121 1897 AAUGUACA G CGUCAAC 3833 CCTTCACA GGCTAGCTACAACGA TTTGTCC 5124 1897 AAUGUACA C ACAAGCG 3833 CTTCACA GGCTAGCTACAACGA TTTGTAC 5122 1904 AGCGGUCA C 3841 GAGACTTG GGCTAGCTACAACGA TTTGTAC 5123 1909 UCAACAAA G UCGGGAGA 3840 TCTCCCGA GGCTAGCTACAACGA TTCCACTT 5124 1927 AGAGAGG G UCAACGAA 3843 TTGTTCA GGCTAGCTACAACGA TCTCACT 5124 1927 AGAGAGG G UCAACGAA 3841 GAGACTTC GGCTAGCTACAACGA TCTCTCC 5124 1927 AGAGAGG G UCAACGAA 3842 GACGAGGA GGCTAGCTACAACGA CCCCTCT 5126 1928 CACCAGAG G UCACCAGG 3841 GAGACTCA GGCTAGCTACAACGA CCCCTCT 5127 1929 UCCUUCCA C GGGGAC 3842 GARGGGA GGCTAGCTACAACGA CACCCTCT 5128 1940 CUCCUUCCA C GGGGACCA 3843 TGGTCACG GGCTAGCTACAACGA CACCCTCT 5128 1941 CCCUUCCA C GGGGACCA 3843 TGGTCACG GGCTAGCTACAACGA CACCCTCT 5128 1945 UCCAGGGA C ACACGAG 3844 CCTCGTCA GGCTAGCTACAACGA CACCCTCT 5128 1945 UCCAGGGA C ACACGAG 3844 CCTCGTCA GGCTAGCTACAACGA CACCCTCT 5128 1946 CACCGGGA A UUACCUCU 3847 TGGTCAG GGCTAGCTACAACGA CACCCTCT 5128 1945 UCCAGGGA C UCACGAG 3844 CCTCGTCA GGCTAGCTACAACGA CACCCTCT 5124 1946 CACCGGA A UUACCUCU 3847 CAAAGTAG GGCTAGCTACAACGA CACCCTCT 5124 1946 CACCGGA A UUACCUCU 3847 CAAAGTAG GGCTAGCTACAACGA CACCACGT 5131	1855	GUACCCUU G UUAUCCAA	3825	TTGGATAA GGCTAGCTACAA	CGA AAGGGTAC	5111
1867 UCCARGOG G CARAUGUG 3828	1858	CCCUUGUU A UCCAAGCG	3826	CGCTTGGA GGCTAGCTACAA	CGA AACAAGGG	5112
1871 AGCGGCAA A UGUGUCAG 3829 CTGACACA GGCTAGCTACAACGA TTGCCGCT 5115 1875 GCAAAUG G UGUCAGCU 3830 AGCTGACA GGCTAGCTACAACGA ACTTGCC 5116 1875 GCAAAUG G UCUGCACU 3832 GATCAAAG GGCTAGCTACAACGA ACTTGCC 5117 1879 AUGUGUCA G CUUUGUAC 3832 GATCAAAG GGCTAGCTACAACGA ACATTGC 5118 1884 AUGUGUCA G UCUGUAC 3832 GATCAAAG GGCTAGCTACAACGA AGACCAT 5118 1886 AGCUUUG G LACAABUG 3833 CATTTGTA GGCTAGCTACAACGA AAAGCTGA 5119 1886 AGCUUUG ACAAAUG 3833 CATTTGTA GGCTAGCTACAACGA AAAGCTGA 5120 1892 GUCACAAA LUGUGAGC 3835 GCTTCACA GGCTAGCTACAACGA TTGTACAA 5121 1892 GUCACAAA G UGUCACA 3835 GCTTCACA GGCTAGCTACAACGA TTGTACAA 5121 1897 AAUGUGAA G CAGUCAC 3835 GCTTCACA GGCTAGCTACAACGA TTGTACAA 5121 1904 ACCGGUCA CAAAGCCG 3833 CTTGTTCA GGCTAGCTACAACGA TTGTACAA 5123 1909 UCAACAAA G LOGGGAGA 3833 TTGTTCA GGCTAGCTACAACGA CTCCCCTC 5124 1909 UCAACCAA G LOGGGAGA 3840 TCTCCCGA GGCTAGCTACAACGA CCCCTCCT 5126 1927 AGACAGAG G UGUCCUC 3841 GAGAGTCA GGCTAGCTACAACGA CCCCCTCT 5127 1930 AGAGGGUG AUCUCCUC 3842 GAAGGAGA GGCTAGCTACAACGA CCCCCTCT 5128 1946 CUCCUUCC C GUGACCA 3843 TGGTCAC GGCTAGCTACAACGA CCCCCTCT 5127 1940 CUCCUUCC C GUGACCA 3843 TGGTCAC GGCTAGCTACAACGA CCCCCTCT 5128 1942 CUCCUUCCA G UGACCAGA 3844 CCCCTGTCA GGCTAGCTACAACGA CACCTCTC 5128 1945 UCCCUUCCA G UGACCAGA 3845 ACCCCTGG GGCTAGCTACAACGA CACCTCGT 5132 1945 UCCACGUG A CAGGGGG 3844 CCCCTGTCA GGCTAGCTACAACGA CACCTCGT 5132 1945 UCCACGUG A UUACUUC 3847 ACCCCTGG GGCTAGCTACAACGA CACCTCGT 5132 1945 UCCACGUG A UUACUUC 3847 ACCCCTGG GGCTAGCTACAACGA CACCTCGT 5132 1945 UCCACGUG A UUACUUC 3847 ACCCCTGG GGCTAGCTACAACGA AATTCAGG 5133 1946 UCCACGUG A CACCGCA 3851 TCAGGGTG GGCTAGCTACAACGA AATTCAGG 5134 1946 UCCACGUG A CACCGCA 3851 TCAGGTG GGCTAGCTACAACGA	1864	UUAUCCAA G CGGCAAAU	3827	ATTTGCCG GGCTAGCTACAA	CGA TTGGATAA	5113
1873 CGGCARAU G UGUCAGCU 3830 ARGCTGACA GGCTAGCTACAACGA ACTTTGCC 5116	1867	UCCAAGCG G CAAAUGUG	3828	CACATTTG GGCTAGCTACAA	CGA CGCTTGGA	5114
1875 GCARAUGU G UCAGCUUU 3831 AAAGCTGA GGCTAGCTACAACGA ACATTGC 5117 1879 AUGUSUCA G CUUUGUAC 3832 CATTTGTA GGCTAGCTACAACGA TGACAACT 5118 1884 UCAGAUUU G UCAAAUG 3832 CATTTGTA GGCTAGCTACAACGA ACAAAGCT 5118 1886 AGCUUUGU A CAAAUGU 3834 CACATTG GGCTAGCTACAACGA ACAAAGCT 5119 1886 AGCUUUGU A CAAAUGU 3834 CACATTG GGCTAGCTACAACGA ACAAAGCT 5120 1892 UUCACAAA U GUGAAAGC 3835 GCTTCACA GGCTAGCTACAACGA ACAAAGCT 5121 1892 GUACAAAU G UGAAAGCG 3837 GCTTCACA GGCTAGCTACAACGA TTGTACAA 5121 1892 GUACAAAU G UGAAAGCG 3837 GTTGACCA GGCTAGCTACAACGA TTGTACAA 5121 1897 AAUGUGAA G CGUCAAC 3837 GTTGACCG GGCTAGCTACAACGA TTCACATT 5123 1900 GUGAAGCG G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA TTCACATT 5123 1904 AGCGUCA A CAAAGCG 3837 GTTGACCG GGCTAGCTACAACGA CGCTTCAC 5124 1904 AGCGUCA A CAAAGCG 3834 TTTGTTGA GGCTAGCTACAACGA CGCTTCAC 5124 1904 AGCGGGA G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA CGCCCT 5125 1909 UCAACAAA G UCGGGAGA 3840 TCTCCCGA GGCTAGCTACAACGA CCCCCT 5127 1930 AGAGGGG	1871	AGCGGCAA A UGUGUCAG	3829	CTGACACA GGCTAGCTACAA	CGA TTGCCGCT	5115
1879 AUGUIQUE G CUUUGUAC 3832 GTACAAAG GGCTAGCTACAACGA TGACACAT 5118 1886 AGCUUUG U ACAAAGUG 3834 CACATTTE GGCTAGCTACAACGA AAACCTGA 5119 1890 UUGUACAA A UGUGAAGC 3835 CCCCTTCA GGCTAGCTACAACGA ACAAAGCT 5120 1892 GUACAAAU G UGAACGG 3835 CCCCTTCA GGCTAGCTACAACGA ACAAAGCT 5121 1892 GUACAAAU G UGAACGG 3836 CCGCTTCA GGCTAGCTACAACGA TTGTACAA 5121 1892 GUACAAAU G UGAACGG 3837 GTTGACCA GGCTAGCTACAACGA TTGTACAA 5121 1893 AUGUGAAG G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA TTGTACAT 5123 1900 GUGAACGG G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA TTTCACATT 5123 1900 GUGAAGCG G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA TTGCCATT 5124 1904 AGCGGUCA A CAAAGUCC 3840 TCTCCCGA GGCTAGCTACAACGA TTTGTTGA 5126 1927 GAGGAGAG G UCAACCAA 3840 TCTCCCGA GGCTAGCTACAACGA TTTGTTGA 5126 1928 CCACACGA A CAAAGUCC 3841 GGAGATCA GGCTAGCTACAACGA TTTGTTGA 5126 1929 UCAACAAA G UCGGGAG 3844 CGTGGTACAACGA GCCCTCTC 5128 1940 CUCCUUCC A CGUGACCA 3843 TGGTCACG GGCTAGCTACAACGA CACCCTCT 5128 1940 CUCCUUCC A CGUGACCA 3844 CCTGGTCA GGCTAGCTACAACGA GTGGAAGGA 5130 1945 UCCACCUG G UGACCAG 3844 CCTGGTCA GGCTAGCTACAACGA GTGGAAGGA 5130 1945 UCCACCUG G UCACCAGG 3844 CCTGGTCA GGCTAGCTACAACGA GCCCTGGTC 5132 1950 GUCCUGAA A UUACUUG 3845 ACCCCTGG GGCTAGCTACAACGA CACCTGGG 5133 1951 GUCCUGAA A UUACUUG 3847 CAAAGTAA GGCTAGCTACAACGA CACCTGGG 5133 1952 GACCAGGG G UCCUGAAA 3848 TTCGAAAG GGCTAGCTACAACGA AATTTCAG 5134 1958 AUUACUUG C ACCUGAAA 3848 TTCGAAAG GGCTAGCTACAACGA AATTTCAG 5134 1959 GUCCUGAA A UUACUUG 3847 CAAAGTAA GGCTAGCTACAACGA AATTTCAG 5134 1951 ACUUGCA A CUUGACAA 3848 TTCGAAAG GGCTAGCTACAACGA AATTTCAG 5134 1956 AUUACUUG C ACCUGAAA 3848 TTCGAAAG GGCTAGCTACAACGA AATTTCAG 5134 1957 ACUUGCA A CUUGACAA 3848 TTCGAAAG GGCTAGCTACAACGA AACTTAAT 5136 1957 GCAACCUG A CAAGCAG 3851 GCTGCTAC GGCTAGCTACAACGA AATTTCAG 5137 1958 AUUACUUG A CCUGACA 3852 TCAGGTTAG GGCTAGCTACAACGA AACTTACA TCTGG 5137 1958 AACCUGA A UGAAGCCC 3852	1873	CGGCAAAU G UGUCAGCU	3830	AGCTGACA GGCTAGCTACAA	CGA ATTTGCCG	5116
1884 UCAGCUUU G UACAAAUG 3833 CATTTGTA GGCTAGCTACAACGA AAAGCTGA 5119 1886 AGCUUUUG A CAAAUGUG 3834 CACATTTG GGCTAGCTACAACGA AACAAGCT 5120 1889 UUGUACAA A UGGAACC 3835 GCTTACAA GGCTAGCTACAACGA TTGTACAA 5121 1892 GUACAAAU G UGAAGCGG 3836 CCCGCTTCA GGCTAGCTACAACGA TTGTACA 5121 1892 GUACAAAU G UGAAGCGG 3836 CCCGCTTCA GGCTAGCTACAACGA TTGTACAC 5122 1897 AAUGUGAA G CGGUCAAC 3837 GTTGACCG GGCTAGCTACAACGA TTCACACT 5123 1890 GUACAACGG UACACAAA 3838 TTTGTTAC GGCTAGCTACAACGA TCACACTT 5123 1900 GUACACAGA CACACAA 3838 TTTGTTCA GGCTAGCTACAACGA CCCTTCAC 5124 1904 AGCGGUCA C CAAAGCUCG 3839 CGACTTTG GGCTAGCTACAACGA TTACCCGC 5124 1905 UCAACAAA G UCGGGAGA 3840 TTCCCCGA GGCTAGCTACAACGA TTTCTTCA 5122 1927 GACAGAGG G UGACCCA 3841 GGAAGCTAC GGCTAGCTACAACGA CCCCTCT 5127 1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAGA GGCTAGCTACAACGA CCCCTCT 5128 1940 UCUCCUUCC A CGUGACCA 3843 TGGTCAC GGCTAGCTACAACGA CACCCTCT 5128 1940 UCUCCUUCC A CGUGACCA 3844 CCCTGGTAC GGCTAGCTACAACGA GCACCGTGC 5128 1942 CCUCUCCA C UGACCAGG 3844 CCCTGGTA GGCTAGCTACAACGA GCACGTGGA 5130 1942 CCUCUCCA C UGACCAGG 3844 CCCTGGTA GGCTAGCTACAACGA GCACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTCCAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1945 UCCACGUG A CUCUGAAA 3846 TTCCAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1946 UCCCUGAA A UUACUUG 3847 CAAAGTAA GGCTAGCTACAACGA TCCAGGAC 5131 1953 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA TCCAGGAC 5131 1954 ACUUCCA C UACACAU 3850 ATGTCAGG GGCTAGCTACAACGA AATTTCAG 5134 1956 UCCACCUGA A CUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA AATTTCAG 5134 1957 ACUUCCA C CAGCACCU 3851 CCCCCTGG GCTAGCTACAACGA TCCAACGT 5134 1958 AUACCUUC G CAACCUGA 3851 CCCCCTG GGCTAGCTACAACGA AATTTCAG 5134 1959 CCACCUGA C UGACACCU 3851 CCCCCTG GGCTAGCTACAACGA AATTTCAG 5134 1959 CCACCUGA C CAGCACC 3851 GCTCCATG GGCTAGCTACAACGA TCCACGG 5134 1950 GCCACCUG G CAGCACC 3853 GTCGCTACG GGCTAGCTACAACGA AACGTACT 5134 1950 GCCACCUG G CAGCACC 3853 GTCGCTACG GGCTAGCTACAACGA AACGTACT 5134 1950 GCCACCUG G CAGCACC 3853 GTCGCTACG GGCTAGCTACAACGA ACCACAC 5140 1951 UGCUGAC G CCCACCC 3851 GCTCACC GGCTAGCTACAACGA AC	1875	GCAAAUGU G UCAGCUUU	3831	AAAGCTGA GGCTAGCTACAA	CGA ACATTTGC	5117
1886 AGCUUUGU A CAAAUGUG 3834 CACATTTG GGCTAGCTACAACGA ACAAAGGT 5120 1890 UUGUACAA A UGUGAAGG 3835 GCTTCACA GGCTAGCTACAACGA TTGTACAA 5121 1897 AAUGUGAA G CGGUCAAC 3836 CCGGTTAC GGCTAGCTACAACGA TTGTACAA 5121 1897 AAUGUGAA G CGGUCAAC 3837 GTTGACCA GGCTAGCTACAACGA TTCACATT 5123 1900 GUGAACCA G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA TCACACTT 5123 1909 UCAACAAA G UCAGCAGA 3839 CGACTTTG GGCTAGCTACAACGA TCACACTT 5125 1909 UCAACAAA G UCAGCAGA 3839 CGACTTTG GGCTAGCTACAACGA TTTCTTAC 5126 1909 UCAACAAA G UCAGCAGA 3849 CGACTTTG GGCTAGCTACAACGA TTTTTTTA 5126 1927 GAGAGAGG G UGAACCAC 3841 GGAGATCA GGCTAGCTACAACGA TTTTTTTA 5126 1927 GAGAGAGG G UCACCACA 3842 GAAGGAGA GGCTAGCTACAACGA CCTCCTC 5127 1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAGG GGCTAGCTACAACGA CCTCCTC 5127 1940 CUCCUUC A CGUGACCAC 3843 TGGTCACA GGCTAGCTACAACGA CCCCCTC 5128 1940 CUCCUUCCA C GUGACCAC 3844 TGGTCACA GGCTAGCTACAACGA GTGGAAGGG 5129 1942 CUUUCCAC G UGACCACA 3844 CCCTGGTCA GGCTAGCTACAACGA GACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 CTCTCAGG GGCTAGCTACAACGA GACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1960 GUCCUGAA A UUACUUUG 3847 CAAGGTAG GGCTAGCTACAACGA CCCTGGTC 5132 1960 GUCCUGAA A UUACUUUG 3847 CAAGGTAG GGCTAGCTACAACGA AATTTCAG 5134 1963 AUGACAUCU A CAUGCACA 3848 TTGCAAAG GGCTAGCTACAACGA AATTTCAG 5134 1963 AUGACAUCU A CAUGCACA 3848 TTGCAAAG GGCTAGCTACAACGA AATTTCAG 5134 1971 ACUUUGCA A CCUGACAU 3850 ATGTCAG GGCTAGCTACAACGA AACGTAA T5135 1971 ACUUUGCA A CUGACCAU 3850 ATGTCAG GGCTAGCTACAACGA AACGTAA T5135 1973 AACCUUGA A CAUGCACC 3851 GCTGCAC GGCTAGCTACAACGA AACGTAA T5135 1976 ACCUCUACA U GAGCCCA 3851 GCTGCAC GGCTAGCTACAACGA ACGTAGCT 5137 1978 AACCUUGA C UGACCAC 3851 GCTGCAC GGCTAGCTACAACGA TCCAAGGT 5138 1980 CCUGACAU G CACCCACGA 3852 GGCTGCCA GGCTAGCTACAACGA ACGTAGCT 5138 1981 CCUGACAU G CAGCCCA 3853 GTGGGCTGC GGCTAGCTACAACGA ACGTAGCT 5144 1992 CCCACUGA G CAGCACCA 3853 GTGGGCTGCA GGCTAGCTACAACGA ACGTAGCT 5144 1992 CCCACUGA G CAGCACCA 3855 GTGGGCTACCACACAGA ACGCACA 5149 1993 ACGUCACA G CAGCACCA 3855 GTGGCTACAACGA GCCTACCAC	1879	AUGUGUCA G CUUUGUAC	3832	GTACAAAG GGCTAGCTACAA	CGA TGACACAT	5118
1890 UUGUACAA A UGUGAAGC 3835 GCTTCACA GGCTAGCTACAACGA TTGTACAA 5121 1892 GUACAAAU G UGAAGCGG 3836 CCGGTTCA GGCTAGCTACAACGA ATTGTAC 5122 1897 ANUGUGAA G CGGUCACA 3837 GTTGACCG GGCTAGCTACAACGA TTCACATT 5123 1900 GUGAGACCG G UCAACAAA 3838 TTGTTGTA GGCTAGCTACAACGA CGCTTCAC 5124 400	1884	UCAGCUUU G UACAAAUG	3833	CATTIGTA GGCTAGCTACAA	CGA AAAGCTGA	5119
1892 GUACAAAU G UGAAGCGG 3835 CCGCTTCA GCTAGCTACAACGA ATTTGTAC 51.22 1897 AAUGUGAA G CGGUCAAC 3837 GTTGACCG GGCTAGCTACAACGA TCACATT 51.23 1900 GUGAAGCG GUCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA TCACATT 51.24 1904 AGCGGUCA CAAAGUCG 3839 CGACTTTG GGCTAGCTACAACGA TGACCGC 51.25 1909 UCAACAAA G UCGGGAGA 3840 TCTCCCGA GGCTAGCTACAACGA TTTGTTGA 51.26 1927 GAGAGAG G UGAUCUCC 3841 GGAGGTCA GGCTAGCTACAACGA TTTGTTGA 51.26 1927 GAGAGAG G UGAUCUCC 3842 GAAGGAG GGCTAGCTACAACGA CTCTCTC 51.27 1930 AGAGGAG A UCUCCUCC 3842 GAAGGAG GGCTAGCTACAACGA CTCTCTC 51.28 1942 CUUCCAC GUGACCA 3843 TGGTCAC GGCTAGCTACAACGA CCCCTCT 51.28 1942 CUUCCAC GUGACCA 3843 TGGTCAC GGCTAGCTACAACGA GCCCTGCT 51.29 1942 CUUCCAC GUGACACA 3844 ACCCCTGG GGCTAGCTACAACGA GCGTAGGAG 51.31 1952 GACCAGGG G UCCUGAA 3845 ACCCCTGG GGCTAGCTACAACGA CCCTGGTC 51.32 1963 CUGAAAU A ULUIGCAA 3846 TTTCAGGA GGCTAGCTACAACGA CCCTGGTC 51.32 1963 CUGAAAU A ULUIGCAA 3848 TTCAGGAG GGCTAGCTACAACGA CACCTGGT 51.34 1968 AUUACUUU G CAACCUGA 3849 TCAGGGTG GGCTAGCTACAACGA AATTTCAG 51.34 1968 AUUACUUU G CAACCUGA 3849 TCAGGGTG GGCTAGCTACAACGA AAAGTAA 51.35 1971 ACUUUGCA CUUGACAC 3851 GCTGCATG GGCTAGCTACAACGA AAAGTAA 51.36 1976 GCAACCUG A CUUGACAC 3851 GCTGCATG GGCTAGCTACAACGA ACGTTCG 51.37 1978 AACCUGAC GACGCCC 3852 GGCGTAGC GACACACACA ATGCAGG 51.37 1978 AACCUGAC GCAGCCC 3852 GGCTAGC GACACACACA TCCAAAG 51.36 1980 CCUGACAU GCAGCCC 3853 GTGGGCTG GGCTAGCTACAACGA ATGCAGG 51.37 1978 AACCUGAC GCAGCCC 3853 GTGGGCTG GGCTAGCTACAACGA ATGCAGG 51.37 1978 AACCUGAC GCAGCACC 3853 GTGGGCTG GGCTAGCTACAACGA TCCATGT 51.36 1980 GCAGGAG GCCCACC 3854 GCTGCACA GGCTAGCTACAACGA TCCATGT 51.36 1980 GCAGGAG GCCCACC GCCACCAC 3855 GCTGCCAC	1886	AGCUUUGU A CAAAUGUG	3834	CACATTTG GGCTAGCTACAA	CGA ACAAAGCT	5120
1997 AAUGUGAA G CGGUCAAC 3837 GTTGACCG GGCTAGCTACAACGA TTCACATT 5123 1900 GUGAAGCG G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA CGCTTCAC 5124 1904 AGCGGUCA A CAAAGUCG 3839 CGACTTG GGCTAGCTACAACGA TGACCGCT 5125 1909 UCAACAAA G UCAGCGAGA 3840 TCTCCCGA GGCTAGCTACAACGA TTTGTTGA 5126 1922 GAGAGAGG G UGAUCUCC 3841 GGAGATCA GGCTAGCTACAACGA CTCTCTC 5127 1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAGA GGCTAGCTACAACGA CACCCTCT 5128 1940 CUCCUUCC A CGUGACCA 3843 TGGTCACG GGCTAGCTACAACGA CACCCTCT 5128 1942 CUUUCCA C GUGACCA 3844 CCTGGTCA GGCTAGCTACAACGA GGAGAGG 5129 1942 CUUUCCA C GUGACCA 3844 CCTGGTCA GGCTAGCTACAACGA GGAGAGG 5129 1942 CUCUCUCC A CGUGACA 3845 ACCCCTGG GGCTAGCTACAACGA GGAGAGG 5130 1945 UCCACGUG A CAGGGGU 3845 ACCCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTCAGGA GGCTAGCTACAACGA CACGTGGC 5132 1966 GUCCUGAA A UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA CCCTGGTC 5132 1968 AUUACUUU G CAACCUGA 3848 TTGCAGA GGCTAGCTACAACGA TTCAGGAC 5133 1968 AUUACUUG C CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA ATTTCAG 5134 1971 ACUUUGCA A CUUGACA 3850 ATTCAGG GGCTAGCTACAACGA AAAGTAAT 5136 1971 ACUUUGCA A CUUGACAU 3850 ATTCAGG GGCTAGCTACAACGA AAAGTAAT 5136 1976 GCAACCUG A CAUGCACU 3851 GCTGCATG GGCTAGCTACAACGA AAGTAAT 5136 1978 AACCUGAC A UGACACCU 3852 GGGCTGCA GGCTAGCTACAACGA ATGCAGTT 5138 1980 CCUGACAU 3650 ACGGCCAC 3851 GCTGCATG GGCTAGCTACAACGA ATGCAGTT 5139 1981 ACCUGACAU 3850 ATGAGTGG GGCTAGCTACAACGA ATGCAGGT 5139 1981 ACCUGACAU 3850 ACGGCTAGC GGCTAGCTACAACGA ATGCAGGT 5139 1981 ACGAGCCC CUGAGCAG 3855 CTCGCTG GGCTAGCTACAACGA ATGCAGGT 5140 1981 UGCAGCCC CUGAGCAG 3855 CTCGCTG GGCTAGCTACAACGA ATGCAGG 5141 1992 CCCACUGA 6 CAGGAGAG 3855 CTCGCTG GGCTAGCTACAACGA ATGCAGG 5141 1992 CCCACUGA CCCACCGA 3851 CTCGCTG GGCTAGCTACAACGA ACGATACG 5140 1992 UCUUUGUG GCCAC	1890	UUGUACAA A UGUGAAGC	3835	GCTTCACA GGCTAGCTACAA	CGA TTGTACAA	5121
1900 SUGAAGCG G UCAACAAA 3838 TTTGTTGA GGCTAGCTACAACGA CGCTTCAC 5124 1904 AGCGGUCA A CAAAGUCG 3839 CGACTTTG GGCTAGCTACAACGA TGACCGCT 5125 1909 UCAACAAA G UCGGGGA 3840 CTCCCCGA GGCTAGCTACAACGA TTTGTTGA 5126 1927 GAGAGAGG G UGAUCUCC 3841 GGAGATCA GGCTAGCTACAACGA CCTCTCT 5127 1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAG GGCTAGCTACAACGA CCCCCTC 5128 1940 CUCCUUCC A CGUGACCA 3843 TGGTCAG GGCTAGCTACAACGA CACCCTCT 5128 1942 CUUCCAC G UGACCAG 3844 CCTGGTCA GGCTAGCTACAACGA GAAGGAG 5129 1942 CUUCCAC G UGACCAG 3845 ACCCCTGG GGCTAGCTACAACGA GTGGAAGG 5130 1945 UCCACGUG A CCAGGGGU 3846 ACCCCTGG GGCTAGCTACAACGA CACCTGGT 5132 1956 GUCCUGAA A UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA CACGTAGG 5131 1956 GUCCUGAA A UUACUUUG 3848 TTGCAAAG GGCTAGCTACAACGA CACGTAGC 5132 1968 AUUACUUU G CAACCUGA 3848 TTGCAAAG GGCTAGCTACAACGA CACTTAGGA 5134 1968 AUUACUUU G CAACCUGA 3849 TCAGGGTG GGCTAGCTACAACGA AATTTCAG 5134 1976 ACUUUGCA A CCUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA AAAGTAAT 5135 1971 ACUUUGCA A CCUGACGC 3851 GCTGATG GGCTAGCTACAACGA AAAGTAAT 5136 1976 GCAACCUG A CUGACAG 3851 GCTGCATG GGCTAGCTACAACGA ACAGTTAGT 5138 1978 AACCUGAC A CUGACAG 3852 GGGGTAGCTACAACGA ACAGTTAGT 5138 1980 CCUGACAU G CAGCCCC 3852 GGGCTAGCTACAACGA ACAGTTCC 5141 1981 CCUGACAU G CAGCCCC 3852 GGGCTAGCTACAACGA ATGTCAGG 5139 1983 GAAUGCA G CCACCUGA 3855 CTGCTCG GGCTAGCTACAACGA ATGTCAGG 5140 1987 UGCAGCCC A CUGAGAG 3854 TCAGTGG GGCTAGCTACAACGA ATGTCAGG 5141 1987 UGCAGCC A CUGAGAG 3855 CTGCTCG GGCTAGCTACAACGA ATGTCAGG 5141 1987 UGCAGCC A CUGAGAG 3855 CTGCTCG GGCTAGCTACAACGA ATGTCAGG 5142 2000 GCAGGAG G CUUUGUG 3858 CAAAGACA GGCTAGCTACAACGA ACCATATC 5144 2011 UGCAGCC A CUGACAG 3856 CTCTCCTG GGCTAGCTACAACGA ACCATATC 5144 2012 AGACCUC A CUGAGAG 3866 CTCTCCTG GGCTAGCTACAACGA ACCATATC	1892	GUACAAAU G UGAAGCGG	3836	CCGCTTCA GGCTAGCTACAA	CGA ATTTGTAC	5122
1904 AGCGGUCA A CANAGUCG 3839 CGACTTTG GGCTASCTACAACGA TGACCGCT 5125 1909 UCAACAAA G UCGGGAGA 3840 TCTCCCGA GGCTAGCTACAACGA TTTGTTGA 5126 1927 GAGAGGG G UGAUCUCC 3841 GGAGATCA GGCTAGCTACAACGA CCTCTTC 5127 1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAGA GGCTAGCTACAACGA CCTCTCT 5128 1940 CUCCUUCC A CGUGACCA 3843 TGGTCACG GGCTAGCTACAACGA GGAAGGA 5129 1942 CCUUCCAC G UGACCAG 3844 CCTGGTCA GGCTAGCTACAACGA GGAAGGA 5129 1942 CCUUCCAC G UGACCAGG 3844 CCTGGTCA GGCTAGCTACAACGA GGAAGGA 5130 1945 UCACGUG A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CACGTGGA 5131 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAGG GGCTAGCTACAACGA ATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TCGAGATT GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TCGAGATT GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3850 ATGTCAGG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3851 GCTGCATG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3851 GCTGCATG GGCTAGCTACAACGA AATTTCAG 5137 1978 AACCUGAC ACUGACAU 3852 GGGCTGCA GGCTAGCTACAACGA ACGGTGC 5137 1978 AACCUGAC ACUGACAC 3852 GGGCTGCA GGCTAGCTACAACGA ACGGTTGC 5137 1978 AACCUGAC ACUGACAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAG 5138 1980 GCAGACCC CUGAGCAC 3853 CTGCTCAG GGCTAGCTACAACGA ATGTCAG 5138 1980 GCAGACCC CUGAGCAC 3853 CTGCTCAG GGCTAGCTACAACGA ATGTCAG 5138 1992 CCCACUGA GAGGACC 3855 CTCCCTCG GGCTAGCTACAACGA ATGTCAG 5140 1992 CCCACUGA GAGGACC 3855 CTCCCTCG GGCTAGCTACAACGA TCAGTGG 5141 1992 CCCACUGA GAGGACC 3855 CTCCCTCG GGCTAGCTACAACGA TCAGTGG 5141 1992 CCCACUGA GAGGACC 3855 CTCCCTG GGCTAGCTACAACGA TCAGTGG 5142 1000 GAGGACC GUGCACC 3857 CACAA	1897	AAUGUGAA G CGGUCAAC	3837	GTTGACCG GGCTAGCTACAA	CGA TTCACATT	5123
1909 UCARCARA G UCGGGAGA 3840 TCTCCCGA GGCTAGCTACARCGA TTTCTTGA 5126 1927 GAGAGAGG G UGAUCUCC 3841 GGAGATCA GGCTAGCTACARCGA CCTCTCT 5127 1930 AGAGGGU A UCUCCUUC 3842 GAAGGAGA GGCTAGCTACARCGA CACCCTCT 5128 1940 CUCCCUUCC A CGUGACCA 3843 TGGTCAG GGCTAGCTACARCGA GAAGGAG 5129 1942 CCUUCCAC G UGACCAGG 3844 CCTGGTCA GGCTAGCTACARCGA GTGGAAGG 5130 1945 UCCACGGU A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACARCGA GTGGAAGG 5131 1952 GACCAGGU A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACARCGA CCTCGGT 5132 1960 GUCCUGAA A UUACUUUG 3847 CARAGTTAA GGCTAGCTACARCGA CCTCGGT 5132 1960 GUCCUGAA A UUACUUUG 3847 CARAGTTAA GGCTAGCTACARCGA CACGTGGC 5133 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACARCGA AAAGTTAT 5134 1966 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACARCGA AAAGTTAAT 5135 1971 AQUUUGCA CCUGACAU 3850 ATGTCAGG GGCTAGCTACARCGA AAAGTTAAT 5136 1976 GCAACCUG A CAUGACAC 3851 GCTGCATG GGCTAGCTACARCGA ACGGTTGC 5137 1978 AACCUGAC GCAGCCCC 3852 GGGCTGC GGCTAGCTACARCGA ATGTCAGG 5139 1980 CCUGACAU G CAGCCCC 3853 GTGGGCTG GGCTAGCTACARCGA ATGTCAGG 5139 1981 UCCAGCCC CCCACUGA 3854 TCAGTGGG GGCTAGCTACARCGA ATGCATGG 5140 1987 UCCAGCCC CUGACAG 3855 CTCCTCAG GGCTAGCTACARCGA TGCATGGT 5140 1989 UCCAGCCC CUGACAG 3855 CTCCTCAG GGCTAGCTACARCGA TCCATGTG 5141 1992 CCCACUGA G CAGGAGAG 3855 CTCCTCAG GGCTAGCTACARCGA TCCATGGG 5142 2002 AGGAGAG CUGUUUU 3857 AAAACACA GGCTAGCTACARCGA TCCATGTG 5142 2004 AGGAGAG CUGUUUU 3858 CAAAAGA GGCTAGCTACARCGA ACCATCAC 5144 2004 AGGAGAG CUGUUUU 3858 CAAAAGA GGCTAGCTACARCGA ACCATCAC 5144 2004 AGGAGAG CUGCAGAC 3861 GCAGTCAC GGCTAGCTACARCGA ACCATCAC 5145 2004 AGGAGAG CUGUCUU 3859 CACAAAGA GGCTAGCTACARCGA ACCATCAC 5146 2004 AGGAGAG CUGACUG 3861 GCAGTCACA GG	1900	GUGAAGCG G UCAACAAA	3838	TTTGTTGA GGCTAGCTACAA	CGA CGCTTCAC	5124
1927 GAGAGAGG G UGAUCUCC 3841 GAGAGTCA GGCTAGCTACAACGA CCTCTCTC 5127 1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAGA GGCTAGCTACAACGA CACCCTCT 5128 1940 CUCCUUCC A CGUGACCA 3843 TGGTCAG GGCTAGCTACAACGA GGAAGGAG 5129 1942 CCUUCCAC G UGACCAG 3844 CCTGGTCA GGCTAGCTACAACGA GGGAAGGA 5130 1942 CCUUCCAC G UGACCAG 3844 CCTGGTCA GGCTAGCTACAACGA GTGGAAGG 5130 1945 UCCACGUG A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1960 GUCCUGAA UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA TACAGGA CTTCAGGAC 5134 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA TATCAGGAC 5134 1968 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA TACAAAGT 5136 1971 AGUUUGCA CCUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA AAAGTAAT 5135 1971 AGUUUGCA A CAUGCACC 3852 GCTGCATG GGCTAGCTACAACGA ACAGTTGC 5137 1978 AACCUGAC A CAUGCACC 3852 GCTGCATG GGCTAGCTACAACGA ATGTCAGG 5137 1978 AACCUGAC CAGCCCC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GAAUGCA GCAGCCCC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GAAUGCA GCAGCCCA 3854 TCAGTGG GGCTAGCTACAACGA ATGTCAGG 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCCA GGCTAGCTACAACGA TCAGTGT 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCCA GGCTAGCTACAACGA TCAGTGG 5141 1992 CCCACUGA G CAGCAGAC 3855 CTGCTCCA GGCTAGCTACAACGA TCAGTGG 5141 1992 CCCACUGA G CAGCAGAC 3855 CTGCTCCA GGCTAGCTACAACGA TCAGTGG 5142 1992 CCCACUGA G CAGCAGCA 3855 CTGCTCCA GGCTAGCTACAACGA TCCCTCC 5144 1992 CCCACUGA G CUGUCUU 3857 AACACACG GGCTAGCTACAACGA ACCACAA 5149 1992 CCCACUGA G CUGUCUU 3857 ACACACAG GCTAGCTACAACGA ACCACAA 5140 1992 CCCACUGA G CUGUCUU 3857 ACACACAC GGCTAGCTACAACGA ACCACACA 5140 1992 CCCACUGA G CUGUCUU 3857 ACACACAG GGCTAGCTACAACGA ACCACACA 5140 19	1904	AGCGGUCA A CAAAGUCG	3839	CGACTTTG GGCTAGCTACAA	CGA TGACCGCT	5125
1930 AGAGGGUG A UCUCCUUC 3842 GAAGGAGA GGCTAGCTACAACGA CACCTCT 5128 1940 CUCCUUCC A CGUGACCA 3843 TGGTCACG GGCTAGCTACAACGA GGAAGGAG 5129 1942 CCUUCCAC G UGACCAGG 3844 CCTGGTCA GGCTAGCTACAACGA GTGGAAGG 5130 1945 UCCACGUG A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CACGTGGT 5132 1950 GUCCUGAAA A UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA TTCAGGAC 5133 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA AATTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TTGCAAAG GGCTAGCTACAACGA AATTCAG 5134 1971 AGUUUGCA A CUUACCAC 3849 TTCAGGTG GGCTAGCTACAACGA AAAGTAAT 5135 1976 GCAACCUG A CAUCCACC 3851 GCTGCATG GGCTAGCTACAACGA AAAGTAAT 5136 1976 GCAACCUG A CAUCCAC 3851 GCTGCATG GGCTAGCTACAACGA ATGCAACT 5137 1978 AACCUGACA U GCAGCCCA 3852 GGGCTGCA GGCTAGCTACAACGA ATGCAACGT 5139 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGCAAGT 5139 1981 GACAUGCA G CACCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGCAAGGT 5139 1982 GACAUGCA G CACCCAC 3854 TCAGTGGG GGCTAGCTACAACGA ATGCAAGG 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA ATGCAGG 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCACTGGG 5142 1992 CCCACUGA G CAGGAGAG 3855 CTGCTCAG GGCTAGCTACAACGA TCACTGGG 5142 2002 AGGAGAGC G UGUUUUG 3857 AAGACACG GGCTAGCTACAACGA TCACTGGG 5142 2004 GAGAGAGC G UGUUUUG 3858 CAAAAGAC GGCTAGCTACAACGA ACCTCTC 5144 2004 GAGAGCGC G UGUUUUG 3859 CACAAAGA GGCTAGCTACAACGA ACCTCTC 5144 2004 GAGAGCGU G UCUUUGG 3860 GTCACCAC GGCTAGCTACAACGA ACCTCTC 5145 2015 UUUGUGG G UGCAUGC 3861 GCAGTGC GGCTAGCTACAACGA ACCTCTC 5145 2011 UUUGUGG G UGCAUGC 3861 GCAGTGC GGCTAGCTACAACGA ACCTCTC 5145 2012 GGUGCACU G CACACACA 3864 TCTGCTG GGCTAGCTACAACGA ACCTCTC 5150 2024 CAUCAGAC G CAGACACA 3864 TCT	1909	UCAACAAA G UCGGGAGA	3840	TCTCCCGA GGCTAGCTACAA	CGA TTTGTTGA	5126
1940 CUCCUUCC A CGUGACCA 3843 TGGTCACG GGCTAGCTACAACGA GGAAGGA 5129 1942 CCUUCCAC G UGACCAGG 3844 CCTGGTCA GGCTAGCTACAACGA GTGGAAGG 5130 1945 UCCACGUG A CCAGGGGU 3845 ACCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1960 GUCCUGAA A UJACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA CCTTGGTC 5132 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA AATTCAG 5134 1963 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AATTCAG 5134 1963 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AAAGTAAT 5135 1971 ACUUUGCA A CCUGACAAU 3850 ATGTCAGG GGCTAGCTACAACGA TGCAAAGT 5136 1976 GCAACCUGA A CAUGCACC 3851 GCTGCATG GGCTAGCTACAACGA TGCAAAGT 5136 1978 AACCUGAC A CUGCACC 3852 GGGCTGCA GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCCC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1980 CCUGACAU G CAGCCCA 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5139 1981 GACAUGCAC CUGAGCAG 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5140 1987 UGCAGCCC A UUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA GGCTAGCT 5140 1989 CCCACUGA G CAGCAGAG 3855 CTGCTCAG GGCTAGCTACAACGA GGCTAGCT 5141 1992 CCCACUGA G CAGCAGAG 3855 CTGCTCCT GGCTAGCTACAACGA GGCTAGCTACAGGA 2000 GCAGGAGA G CUGUCUU 3857 AAGACAC GGCTAGCTACAACGA CGCTCCC 5143 2001 GUGUCUUU G UGGUGCAC 3861 GCAGTAGC GGCTAGCTACAACGA ACCTCCC 5145 2010 GUGUCUUU G UGGUGCAC 3861 GCAGTGCA GGCTAGCTACAACGA ACCTCCC 5145 2011 UUUUGUG G UGCACUC 3861 GCAGTGCA GGCTAGCTACAACGA ACCACAA 5146 2012 UUUUGUG G UGCACUC 3861 GCAGTGCA GGCTAGCTACAACGA ACCACAA 5147 2015 UUUUGUG G UGCACUC 3861 GCAGTGCA GGCTAGCTACAACGA ACCACAA 5147 2016 GUGUCUUU G UGGGCAC 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAA 5149 2017 UGUGGUC CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA	1927	GAGAGAGG G UGAUCUCC	3841	GGAGATCA GGCTAGCTACAA	CGA CCTCTCTC	5127
1942 CCUUCCAC G UGACCAGG 3844 CCTGGTCA GGCTAGCTACAACGA GTGGAAGG 5130 1945 UCCACGUG A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CACGTGGT 5132 1960 GUCCUGAA A UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA TTCAGGACC 5133 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAGG GGCTAGCTACAACGA ATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AAATTTCAG 5134 1979 AGUUUGCA A CCUGACAU 3850 ATTGCAGG GGCTAGCTACAACGA AAATTTCAG 5136 1971 AGUUUGCA A CCUGACAU 3850 ATTGCAGG GGCTAGCTACAACGA AAAGTAAT 5135 1972 AGUUUGCA A CCUGACAU 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCC 3852 GGGGTGG GGCTAGCTACAACGA CAGGTTGC 5137 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3855 CTGCTCAG GGCTAGCTACAACGA ATGTCAGG 5139 1984 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA ATGCAGTGT 5140 1995 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TCAGTGGG 5141 1992 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CUGUUUU 3857 AAGACAC GGCTAGCTACAACGA TCAGTGGG 5142 2001 GUGUUUU G UGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA TCACTCTC 5143 2002 AGGAGAGC G UUCUUUG 3858 CAAAGACA GGCTACAACGA ACGCTCC 5144 2004 GAGACGCU G UCUUUUG 3858 CAAAGACA GGCTAGCTACAACGA ACGCTCC 5145 2013 UCUUUGU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA ACGCTCC 5145 2014 CUUUGUG G CACUGCA 3860 GTGCACCA GGCTAGCTACAACGA ACGACAA 5147 2015 UUUGUGGU G CACUGCAG 3862 GCTAGCTACAACGA ACGACAA 5147 2016 GUGUUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA ACGACAA 5149 2017 UUUGUGGU G CACUGCAG 3862 GCTAGCTACAACGA ACCACAA 5149 2028 CAGACAG A UCUACGUU 3866 AACGTGG GGCTAGCTACAACGA ACCACAA 5149 2029 GGGCACU G CAGACAGA 3864 TCTGTCT G GGCTAGCTACAACGA ACCAC	1930	AGAGGGUG A UCUCCUUC	3842	GAAGGAGA GGCTAGCTACAA	CGA CACCCTCT	5128
1945 UCCACGUG A CCAGGGGU 3845 ACCCCTGG GGCTAGCTACAACGA CACGTGGA 5131 1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1963 GUCCUGAA AUJACUJUG 3847 CAAAGTAA GGCTAGCTACAACGA TTCAGGAC 5133 1963 CUGAAAUU A CUJUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUJACUJUG CAAACUGA 3849 TCAGGTG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUJACUJUG CAAACUGA 3850 ATGTCAGG GGCTAGCTACAACGA AAAGTAAT 5135 1971 ACJUJUGCA A CCUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA TGCAAAGT 5136 1976 GCAACCUG A CAUGCAGC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC AUGCAGCC 3852 GGGCTGAG GGCTAGCTACAACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA C CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA ATGTCAGG 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGTC 5144 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CUUUUUU 3857 AACACACG GGCTAGCTACAACGA TCCCTGC 5143 2004 GAGAGCGU G UUUUUUG 3858 CAAAGACA GGCTAGCTACAACGA ACGCTCTC 5144 2004 GAGAGCGU G UUUUUUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2013 UCUUUGU G UGCACUG 3861 GCAGTGCA GGCTAGCTACAACGA ACGCTCTC 5145 2013 UCUUUGU G UGCACUG 3861 GCAGTGCA GGCTAGCTACAACGA ACGCTCTC 5145 2013 UCUUUGU G UGCACUG 3861 GCAGTGCA GGCTAGCTACAACGA ACCACAAA 5146 2013 UCUUUGU G UGCACUG 3861 GCAGTGCA GGCTAGCTACAACGA ACCACAAA 5147 2015 UUUGGGU C CAGACAGA 3864 TCTGTCG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUG C CAGACAGA 3864 TCTGTCG GGCTAGCTACAACGA ACCACACA 5149 2020 GGUGCACU C CAGACAGA 3864 TCTGTCG GGCTAGCTACAACGA ACCACACA 5150 2024 CACUGAG A CAGACUU 3866 AACGTTG	1940	CUCCUUCC A CGUGACCA	3843	TGGTCACG GGCTAGCTACAA	CGA GGAAGGAG	5129
1952 GACCAGGG G UCCUGAAA 3846 TTTCAGGA GGCTAGCTACAACGA CCCTGGTC 5132 1960 GUCCUGAA A UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA TTCAGGAC 5133 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AAAGTAAAT 5135 1971 ACUUUGCA A CAUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA AAAGTAAAT 5136 1976 GCAACCUGA A CAUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA AGAGTTGC 5137 1978 AACCUGAC A CAUGACGC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCCC 3852 GGGCTGCA GGCTAGCTACAACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5139 1987 UGCAGCCC A CUGAGCAG 3855 CTCTCCTG GGCTAGCTACAACGA ATGTCAGG 5140 1992 UGCAGCCC A CUGAGCAG 3855 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CAGGACAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2004 GAGAGCGU G UUCUUUG 3857 AACACACG GGCTAGCTACAACGA ATGTCAGC 5143 2004 GAGAGCGU G UUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA ACGTCTC 5144 2004 GAGAGCGU G UUCUUUG 3859 CACAAAGA GGCTAGCTACAACGA ACGTCTC 5145 2013 UUCUUGU G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA AAGACAC 5146 2013 UUCUUGU G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA AAGACAC 5147 2015 UUUGUGGU G CACUGCAG 3862 CTCGCATG GGCTAGCTACAACGA AAGACAC 5148 2017 UUGUGGU G CACUGCAG 3862 CTCGCATG GGCTAGCTACAACGA ACCACAA 5148 2017 UUGUGGU G CACUGCAG 3863 GTCTGCTG GGCTAGCTACAACGA ACCACAA 5149 2018 UUUUGUGGU G CACUGCAG 3863 GTCTGCATG GGCTAGCTACAACGA ACCACAA 5149 2018 UUUUGUGGU G CACUGCAG 3864 TCTGTCTG GGCTAGCTACAACGA ACCACAC 5149 2019 GAGACGC A CAGACGA 3864 TCTGTCTG GGCTAGCTACAACGA ACGACCAC 5150 2019 GAGACGC A CAGACGG 3866 ACCTTGCATG	1942	CCUUCCAC G UGACCAGG	3844	CCTGGTCA GGCTAGCTACAA	CGA GTGGAAGG	5130
1960 GUCCUGAA A UUACUUUG 3847 CAAAGTAA GGCTAGCTACAACGA TTCAGGAC 5133 1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AAAGTAAT 5135 1971 AGUUUGCAA CCUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA TGCAAAGT 5136 1976 GCAACCUG A CAUGCAGC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A CAUGCAGC 3852 GGCGTGCA GGCTAGCTACAACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5137 1983 GACAUGCA G CCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5139 1981 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TCAGTGGC 5141 1992 CCCACUGA G CAGGAAGG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGG G GUGUUUU 3857 AAGACACG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGG G UGUUUUG 3858 CAAAGACA GGCTAGCTACAACGA TCTCCTC 5144 2004 GAGAGCGU G UUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUUUUU G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA ACGCTCTC 5145 2011 UUUUUUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA ACGCACAA 5146 2011 UUUUUGGU G CACUGCAG 3862 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5147 2015 UUUUGUGGU G CACUGCAG 3862 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUCC A CUGCAGA 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5148 2017 UUUUGUGGU G CACUGCAG 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3865 TAGATCTG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3866 ACGTAGG GGCTAGCTACAACGA CTGCAGTG 5151 2024 GAGACCAC A CAGACAGA	1945	UCCACGUG A CCAGGGGU	3845	ACCCCTGG GGCTAGCTACAA	CGA CACGTGGA	5131
1963 CUGAAAUU A CUUUGCAA 3848 TTGCAAAG GGCTAGCTACAACGA AATTTCAG 5134 1968 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AAAGTAAT 5135 1971 ACUUUGCA A CCUCACAU 3850 ATGTCAGG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCCC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCCC 3852 GGGGCTGCA GGCTAGCTACAACGA CAGGTTGC 5137 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 5139 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA ATGTCAGG 5139 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA ATGTCAGG 5139 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 5140 1992 CCCACUGA G CAGGAGA 3856 CTCTCCTG GGCTAGCTACAACGA TCACTGCG 5141 1992 CCCACUGA G CAGGAGA G 3856 CTCTCCTG GGCTAGCTACAACGA TCACTGCG 5142 2000 GCAGGAGA G CUGUUUU G 3857 AACACACG GGCTACCAACGA TCCCTGC 5143 2002 AGGAGAGG G UGUUUUGU G 3859 CACAAAGA GGCTACCAACGA ACGCTCTCCT 5144 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA ACGCTCTCCT 5145 2010 GUGUCUUU G UGCACUG 3861 GCAGTGCA GGCTAGCTACAACGA ACGCTCTCCT 5145 2010 GUGUCUUU G UGCACUG 3861 GCAGTGCA GGCTACCAACGA ACGCACCAAAGA 5147 2011 UUUUGUG G UGCACUG 3861 GCAGTGCA GGCTAGCTACAACGA ACGCACCAAAGA 5147 2015 UUUUGUG G UGCACUG 3862 CTGCAGTG GGCTAGCTACAACGA ACGCACAAAGA 5148 2017 UGUUGUG G CACUACAG 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUUGUG A CUGCAGA 3864 TCTGTCTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUUGGGU C CAGAACAGA 3864 TCTGTCTG GGCTAGCTACAACGA ACGCACCACA 5149 2024 CACUGCAG A CAGAACAG 3864 TCTGTCTG GGCTAGCTACAACGA ACGCACCACA 5149 2024 CACUGCAG A CAGAACAG 3864 TCTGTCTG GGCTAGCTACAACGA ACGCACCAC 5150 2024 CACUGCAG A CAGAACAG 3866 TTGTCTG GGCTAGCTACAACGA AGTGCTAC ACGA CTGCTGC 5152 2024 CACUGCAG A CAGACUCA 3865 TAGATCT G GGCTAGCTACAACGA CTGCTGCTG 5152 2024 CACUGCAG A CAGACUCA 3869 ATGTGAG GGCTAGCTACAACGA CTGCTACAACGA C	1952	GACCAGGG G UCCUGAAA	3846	TTTCAGGA GGCTAGCTACAA	CGA CCCTGGTC	5132
1968 AUUACUUU G CAACCUGA 3849 TCAGGTTG GGCTAGCTACAACGA AAAGTAAT 5135 1971 AGUUUGCA A CCUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA TGCAAAGT 5136 1976 GCAACCUG A CAUGCAGC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCCC 3852 GGGCTGC GGCTAGCTACAACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA TGCATGTC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TCAGTGGG 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CGUUUUUU 3857 AAGACACG GGCTAGCTACAACGA TCACTGC 5143 2004 GAGAGCGU G UCUUUUUU 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUUUUU G UGGUGCAC 3861 GCAGTGCA GGCTAGCTACAACGA ACGCTCTC 5145 2011 UUUUGUGU G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA ACACAAA 5146 2012 UUUUGUGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACACAAA 5148 2017 UUUUGUG C CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA ACACAAA 5148 2019 GUGUCUUU A CGUUUGAG 3865 TAGATCTG GGCTAGCTACAACGA ACACACA 5149 2020 GGUGCACU CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA ACACACA 5149 2021 GCUUGCAGAC 3865 TAGATCTG GGCTAGCTACAACGA ACACACA 5150 2022 GAGACAG A CUCACAU 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2024 CACUGCAG CAGACUU 3866 TTGTACA GGCTAGCTACAACGA CTGCAGTG 5152 2032 ACAGAUCU A CAUGUUGAG 3867 CTCAAACG GGCTAGCTACAACGA CTGCAGTG 5152 2034 AGAUCUC A CUUUGAGA 3868 TTCTCAAA GGCTAGCTACAACGA TCTCAAAC 5155 2045 ACACUCCA A CAUGUUGA	1960	GUCCUGAA A UUACUUUG	3847	CAAAGTAA GGCTAGCTACAA	CGA TTCAGGAC	5133
1971 AGUUUGCA A CCUGACAU 3850 ATGTCAGG GGCTAGCTACAACGA TGCAAAGT 5136 1976 GCAACCUG A CAUGCAGC 3851 GCTGCATG GGCTAGCTACAACGA CAGGTTGC 5137 1978 AACCUGAC A UGCAGCCC 3852 GGGGTGCA GGCTAGCTACAACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA TGCATGCT 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGCT 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGGG 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCCTCTGC 5142 2000 GCAGGAGA G CGUGUCUU 3857 AACACACG GGCTAGCTACAACGA TCCTCTGC 5143 2002 AGGAGAGC G UGUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA TCCTCCT 5144 2004 GAGAGCGU G UCUUUUG 3859 CACAAAGA GGCTAGCTACAACGA ACCACAC 5146 2013 UCUUUGU G UGGUGCAC 3861 GCAGTGCACACA GGCTAGCTACAACGA ACCACAC 5147 2014 UGUGUGU G CACUCACG 3861 GCAGTGCACACACA ACCACACA 5148 2017 UGUGGUGC A CUGCAGAC 3862 CTCCACTG GGCTAGCTACAACGA ACCACACA	1963	CUGAAAUU A CUUUGCAA	3848	TTGCAAAG GGCTAGCTACAA	CGA AATTTCAG	5134
1976 GCAACCUG A CAUGCAGC 1851 GCTGCATG GGCTAGCTACAACGA CAGGTTCC 1978 AACCUGAC A UGCAGCCC 1852 GGCTGCA GGCTAGCTACAACGA GTCAGGTT 1980 CCUGACAU G CAGCCCAC 1853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 1981 GACAUGCA G CCCACUGA 1854 TCAGTGGG GGCTAGCTACAACGA ATGTCAGG 1987 UGCAGCCC A CUGAGCAG 1855 CTGCTCAG GGCTAGCTACAACGA TGCATGT 1987 UGCAGCCC A CUGAGCAG 1855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 1987 UGCAGCCC A CUGAGCAG 1855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 1992 CCCACUGA G CAGGAGAG 1855 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 142 1992 CCCACUGA G CAGGAGAG 1856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 142 2000 GCAGGAGAG G CGUGUUUU 1857 AAGACACG GGCTAGCTACAACGA TCTCCTGC 143 2002 AGGAGAGC G UGUUUUG 1858 CAAAGACA GGCTAGCTACAACGA TCTCCTC 144 2004 GAGAGCGU G UCUUUGUG 1858 CAAAGACA GGCTAGCTACAACGA ACGCTCTC 145 2010 GUGUCUUU G UGGUGCAC 1860 GTGCACCA GGCTAGCTACAACGA ACGCTCTC 145 2011 UUUUGUGG G UGCACUGC 1861 GCAGTGCACAACGA ACGCTCACAACGA CACAAAGA 147 2015 UUUUGUGG G UGCACUGC 1862 GCTAGCTACAACGA ACCACAAA 148 2017 UGUGGGUGC A CUGCAGAC 1862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 148 2017 UGUGGGUGC A CUGCAGAC 1862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 149 2020 GGUGCACU G CAGACAGA 1864 TCTGTCTG GGCTAGCTACAACGA ACCACACA 149 2020 GGUGCACU G CAGACAGA 1864 TCTGTCTG GGCTAGCTACAACGA ACGACCC 150 2024 CACUGCAG A CAGAUCUA 1866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 15151 2028 GCAGACAG A UCUACGUU 1866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 15152 2032 ACAGAUCU A CGUUUGAG 1867 CTCAAACG GGCTAGCTACAACGA CTGCAGTG 1552 2032 ACAGAUCU A CGUUUGAG 1867 CTCAAACG GGCTAGCTACAACGA GATCTGT 15154 2042 GUUUGAGA A CCUCACAU 1866 AACGTAGA GGCTAGCTACAACGA GATCTGT 15154 2042 GUUUGAGA A CCUCACAU 1866 AACGTAGA GGCTAGCTACAACGA GATCTGT 15154 2043 AGAUCUCA G UUUGAGA 1867 CTCAAACG GGCTAGCTACAACGA GATCTGT 1552 2034 AGAUCUA A CGUUUGAGA 1867 CTCAAACG GGCTAGCTACAACGA GATCTGT 15154 2049 AACCUCAC A UGGUACA 1869 ATGTGAGG GGCTAGCTACAACGA GAGGTTC 1554 2049 AACCUCAC A UGGUACA 1870 AGGCTAGCTACAACGA GAGGTTC 1556 CUCACAUG G UACAAGCU 1871 AGGCTAGCTACAACGA CAGAGTTG 1557 CUCACAUG G UACAAGCU 1871 AGGCTAGCTACAACGA CAAGCTTG 1556	1968	AUUACUUU G CAACCUGA	3849	TCAGGTTG GGCTAGCTACAA	CGA AAAGTAAT	5135
1978 AACCUGAC A UGCAGCCC 3852 GGGCTGCA GGCTAGCTACCACGA GTCAGGTT 5138 1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA TGCATGTC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 5141 1992 CCCACUGA G CAGCAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CUGUUUU 3857 AAGACACG GGCTAGCTACAACGA TCTCCTC 5143 2004 GAGAGCGU GUUUUUU 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTCT 5145 2010 GUGUCUUU G UGCACUGC 3860 GTGCACCA GGCTAGCTACAACGA ACACAAAA 5147 2013 UUUUGUG G UGCACUGC 3861 GCAGTAGCTACAACGA ACCACACA 5149 2015 UUUGUGG	1971	ACUUUGCA A CCUGACAU	3850	ATGTCAGG GGCTAGCTACAA	CGA TGCAAAGT	5136
1980 CCUGACAU G CAGCCCAC 3853 GTGGGCTG GGCTAGCTACAACGA ATGTCAGG 5139 1983 GACAUGCA G CCCACUGA 3854 TCAGTGG GGCTAGCTACAACGA TGCATGTC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA TGCATGTC 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CGUGUCUU 3857 AAGACACG GGCTAGCTACAACGA TCAGTGGG 5142 2002 AGGAGAGA G CGUGUCUU 3857 AAGACACG GGCTAGCTACAACGA TCTCCTGC 5143 2002 AGGAGAGC G UGUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA TCTCCTGC 5144 2004 GAGAGCGU G UCUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA ACGCTCTC 5145 2011 GUGUUUUU G UGGUGCAC 3861 GCAGTGCA GGCTAGCTACAACGA ACACAAAGA 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA ACACAAAA 5148 2017 UGUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACACAAAA 5148 2017 UGUGUGGU G CACUGCAGA 3863 GTCTGCAGT GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGUGGU G CAGACAGA 3864 TCTGTGCTG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3865 TAGATCTG GGCTAGCTACAACGA ACGCACCA 5149 2021 GCAGCAG A CAGAUCUA 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5152 2032 ACAGAUCU A CGUUGAGA 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAAC GGCTAGCTACAACGA AGATCTGT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GAGTTCTT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GAGTTCTT 5156 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GTGGAGTT 5157 2052 CUCACAUG G UACAGCU 3871 CTACACG GGCTAGCTACAACGA CATGTGG 5159 2054 CACAUGGU A CAAGCUU 3872 AGCTTGTA GGCTACAACGA CATGTGG 5159 2055 UCACAUG G UACAAGCU 3873 CAAGCTTG GGCTACAACGA CATGTGG 5159 2056 CACAUGGU A CAAGCUU 3873 CAAGCTTG GGCTACAACGA CATGTGG 5156 2063 CAAGCUUG G CCCACACC 3874 GGCCAAG GGCTACAACGA CAAGCTTG 5160 2063 CAAGCUUG G CCCACACC 3875 GGCTAGCTACAACGA CAAGCTTG 5161	1976	GCAACCUG A CAUGCAGC	3851	GCTGCATG GGCTAGCTACAA	CGA CAGGTTGC	5137
1983 GACAUGCA G CCCACUGA 3854 TCAGTGGG GGCTAGCTACAACGA TGCATGCC 5140 1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA GGCTGCCA 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CUGUCUU 3857 AAGACACG GGCTAGCTACAACGA TCTCCTG 5143 2004 GAGAGAGC G UGUUUUGU 3858 CAAAGACA GGCTAGCTACAACGA ACGCTCTC 5144 2010 GUGUCUUU G UGUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA AAGACAC 5146 2011 UGUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA AACACAAA 5147 2015 UUUGUGUG G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACACA 5148 2015 UUUGUGUGUG G CAGACAGA 386	1978	AACCUGAC A UGCAGCCC	3852	GGGCTGCA GGCTAGCTACAA	CGA GTCAGGTT	5138
1987 UGCAGCCC A CUGAGCAG 3855 CTGCTCAG GGCTAGCTACAACGA GGGCTGCA 5141 1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CGUGUCUU 3857 AAGACAC GGCTAGCTACAACGA TCTCCTGC 5143 2002 AGGAGAGC G UGUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA GCTCTCCT 5144 2004 GAGAGCGU G UCUUUGU 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA AAGACAC 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA AAGACAC 5147 2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACACAAAA 5148 2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA AGTGCACC 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAAC GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAAC GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5154 2043 AAGAUCUAC G UUGAGAA 3870 GTACCATG GGCTAGCTACAACGA GTAGATCT 5154 2044 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GAGGTTC 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA CATGTAGG 5158 2054 CACAUGGU A CAAGCUU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTAGG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA CATGTAGG 5159 2058 UGGUACAA G CUUGCCC 3874 GGGCCAAG GGCTAGCTACAACGA CATGTAG 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161	1980	CCUGACAU G CAGCCCAC	3853	GTGGGCTG GGCTAGCTACAA	CGA ATGTCAGG	5139
1992 CCCACUGA G CAGGAGAG 3856 CTCTCCTG GGCTAGCTACAACGA TCAGTGGG 5142 2000 GCAGGAGA G CGUGUCUU 3857 AAGACACG GGCTAGCTACAACGA TCTCCTGC 5143 2002 AGGAGAGC G UGUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA TCTCCTGC 5144 2004 GAGAGCGU G UCUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA AAGACAC 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCACAACGA CACAAAGA 5147 2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA AGTGCACC 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5152 2032 ACAGAUCU A CGUUUGAGA 3868 TTCTCAAAC GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAAC GGCTAGCTACAACGA AGATCTGT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CUUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5154 2043 AGAUCUAC G UUUGAGAA 3870 GTACCATG GGCTAGCTACAACGA GTAGATCT 5156 2044 AGACCUCA A UGGUACA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGTTC 5155 2047 AGAACCUC A CAUGGUAC 3872 AGCTTGTA GGCTAGACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUU 3873 CAAGCTTG GGCTAGCTACAACGA CATGTGAG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUUU 3876 AGAGGTG GGCTAGCTACAACGA CAAGCTTG 5161	1983	GACAUGCA G CCCACUGA	3854	TCAGTGGG GGCTAGCTACAA	CGA TGCATGTC	5140
2000 GCAGGAGA G CGUGUCUU 3857 AAGACACG GGCTAGCTACAACGA TCTCCTGC 5143 2002 AGGAGAGC G UGUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA GCTCTCCT 5144 2004 GAGAGCGU G UCUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA AAGACAC 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTACAACGA AAAGACAC 5147 2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGGUC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCACACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA AGTGCACC 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCAACGA AGATCTGT 5153 2034 AGAUCUA C GUUUGAGA 3867 CTCAAACG GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAG GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAG GGCTAGCTACAACGA GTAGATCT 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GTAGATCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5158 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA ACCATGTG 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUUU 3876 AGAGGCTG GGCTAGCTACAACGA CAAGCTTG 5161	1987	UGCAGCCC A CUGAGCAG	3855	CTGCTCAG GGCTAGCTACAA	CGA GGGCTGCA	5141
2002 AGGAGAGC G UGUCUUUG 3858 CAAAGACA GGCTAGCTACAACGA GCTCTCCT 5144 2004 GAGAGCGU G UCUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA AAAGACAC 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA AAAGACAC 5147 2015 UUUGUGUG G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGUGUC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA ACCACAAA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA AGTGCACC 5150 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGTTCT 5156 2049 AACCUCAC A UGGUACA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGCCC 3874 GGGCCAAG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGCCC 3874 GGGCCAAG GGCTAGCTACAACGA CAAGCTTG 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161	1992	CCCACUGA G CAGGAGAG	3856	CTCTCCTG GGCTAGCTACAA	CGA TCAGTGGG	5142
2004 GAGAGCGU G UCUUUGUG 3859 CACAAAGA GGCTAGCTACAACGA ACGCTCTC 5145 2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA AAAGACAC 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA CACAAAGA 5147 2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA GCACCACA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGCAGTG 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA CAAGCTTG 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA CAAGCTTG 5161	2000	GCAGGAGA G CGUGUCUU	3857	AAGACACG GGCTAGCTACAA	CGA TCTCCTGC	5143
2010 GUGUCUUU G UGGUGCAC 3860 GTGCACCA GGCTAGCTACAACGA AAAGACAC 5146 2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA CACAAAGA 5147 2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA GCACCACA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5156 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUU 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTGG 5158 2054 CACAUGGU A CAAGCUU 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA CAAGCTTG 5161	2002	AGGAGAGC G UGUCUUUG	3858	CAAAGACA GGCTAGCTACAA	CGA GCTCTCCT	5144
2013 UCUUUGUG G UGCACUGC 3861 GCAGTGCA GGCTAGCTACAACGA CACAAAGA 5147 2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA GCACCACA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA CTGTCTGC 5152 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGTG GGCTAGCTACAACGA CAAGCTTG 5161	2004	GAGAGCGU G UCUUUGUG	3859	CACAAGA GGCTAGCTACAA	CGA ACGCTCTC	5145
2015 UUUGUGGU G CACUGCAG 3862 CTGCAGTG GGCTAGCTACAACGA ACCACAAA 5148 2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA GCACCACA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5156 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161	2010	GUGUCUUU G UGGUGCAC	3860	GTGCACCA GGCTAGCTACAA	CGA AAAGACAC	5146
2017 UGUGGUGC A CUGCAGAC 3863 GTCTGCAG GGCTAGCTACAACGA GCACCACA 5149 2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5156 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA CAAGCTTG 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161	2013	UCUUUGUG G UGCACUGC	3861	GCAGTGCA GGCTAGCTACAA	CGA CACAAAGA	5147
2020 GGUGCACU G CAGACAGA 3864 TCTGTCTG GGCTAGCTACAACGA AGTGCACC 5150 2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA GTAGATCT 5156 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2015	UUUGUGGU G CACUGCAG	3862	CTGCAGTG GGCTAGCTACAA	CGA ACCACAAA	5148
2024 CACUGCAG A CAGAUCUA 3865 TAGATCTG GGCTAGCTACAACGA CTGCAGTG 5151 2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGTTG GGCTAGCTACAACGA GAGCTTG 5162	2017	UGUGGUGC A CUGCAGAC	3863	GTCTGCAG GGCTAGCTACAA	CGA GCACCACA	5149
2028 GCAGACAG A UCUACGUU 3866 AACGTAGA GGCTAGCTACAACGA CTGTCTGC 5152 2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2020	GGUGCACU G CAGACAGA	3864	TCTGTCTG GGCTAGCTACAA	CGA AGTGCACC	5150
2032 ACAGAUCU A CGUUUGAG 3867 CTCAAACG GGCTAGCTACAACGA AGATCTGT 5153 2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGTG GGCTAGCTACAACGA GGGCCAAG 5162	2024	CACUGCAG A CAGAUCUA	3865	TAGATCTG GGCTAGCTACAA	CGA CTGCAGTG	5151
2034 AGAUCUAC G UUUGAGAA 3868 TTCTCAAA GGCTAGCTACAACGA GTAGATCT 5154 2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2028	GCAGACAG A UCUACGUU	3866	AACGTAGA GGCTAGCTACAA	CGA CTGTCTGC	5152
2042 GUUUGAGA A CCUCACAU 3869 ATGTGAGG GGCTAGCTACAACGA TCTCAAAC 5155 2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2032	ACAGAUCU A CGUUUGAG	3867	CTCAAACG GGCTAGCTACAA	CGA AGATCTGT	5153
2047 AGAACCUC A CAUGGUAC 3870 GTACCATG GGCTAGCTACAACGA GAGGTTCT 5156 2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162			3868	TTCTCAAA GGCTAGCTACAA	CGA GTAGATCT	5154
2049 AACCUCAC A UGGUACAA 3871 TTGTACCA GGCTAGCTACAACGA GTGAGGTT 5157 2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162			3869	ATGTGAGG GGCTAGCTACAA	CGA TCTCAAAC	5155
2052 CUCACAUG G UACAAGCU 3872 AGCTTGTA GGCTAGCTACAACGA CATGTGAG 5158 2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2047	AGAACCUC A CAUGGUAC	3870	GTACCATG GGCTAGCTACAA	CGA GAGGTTCT	5156
2054 CACAUGGU A CAAGCUUG 3873 CAAGCTTG GGCTAGCTACAACGA ACCATGTG 5159 2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2049	AACCUCAC A UGGUACAA	3871	TTGTACCA GGCTAGCTACAA	CGA GTGAGGTT	5157
2058 UGGUACAA G CUUGGCCC 3874 GGGCCAAG GGCTAGCTACAACGA TTGTACCA 5160 2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2052	CUCACAUG G UACAAGCU	3872	AGCTTGTA GGCTAGCTACAA	CGA CATGTGAG	5158
2063 CAAGCUUG G CCCACAGC 3875 GCTGTGGG GGCTAGCTACAACGA CAAGCTTG 5161 2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162	2054	CACAUGGU A CAAGCUUG	3873	CAAGCTTG GGCTAGCTACAAG	CGA ACCATGTG	5159
2067 CUUGGCCC A CAGCCUCU 3876 AGAGGCTG GGCTAGCTACAACGA GGGCCAAG 5162			3874	GGGCCAAG GGCTAGCTACAAG	CGA TTGTACCA	5160
2070 00000707 0 00000000 2000			3875	GCTGTGGG GGCTAGCTACAA	CGA CAAGCTTG	5161
2070 GGCCCACA G CCUCUGCC 3877 GGCAGAGG GGCTAGCTACAACGA TGTGGGCC 5163	2067	CUUGGCCC A CAGCCUCU	3876	AGAGGCTG GGCTAGCTACAAG	CGA GGGCCAAG	5162
	2070	GGCCCACA G CCUCUGCC	3877	GGCAGAGG GGCTAGCTACAAC	CGA TGTGGGCC	5163

	CAGCCUCU G CCAAUCC		TGGATTGG GGCTAGCTACAACGA AGAGGCTG 5164
2080			CACATGGA GGCTAGCTACAACGA TGGCAGAG 5165
	GCCAAUCC A UGUGGGA		CTCCCACA GGCTAGCTACAACGA GGATTGGC 5166
_	CAAUCCAU G UGGGAGA		CTCTCCCA GGCTAGCTACAACGA ATGGATTG 5167
-	GUGGGAGA G UUGCCCA		GTGGGCAA GGCTAGCTACAACGA TCTCCCAC 5168
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	AGUUGCCC A CACCUGU		AACAGGTG GGCTAGCTACAACGA GGGCAACT 5170
	UUGCCCAC A CCUGUUU		CAAACAGG GGCTAGCTACAACGA GTGGGCAA 5171
	CCACACCU G UUUGCAA		CTTGCAAA GGCTAGCTACAACGA AGGTGTGG 5172
	ACCUGUUU G CAAGAAC		AGTTCTTG GGCTAGCTACAACGA AAACAGGT 5173
	UUGCAAGA A CUUGGAU		TATCCAAG GGCTAGCTACAACGA TCTTGCAA 5174
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	GAAAUUGA A UGCCACC	3892	TGGTGGCA GGCTAGCTACAACGA TCAATTTC 5178
 	AAUUGAAU G CCACCAU		CATGGTGG GGCTAGCTACAACGA ATTCAATT 5179
	UGAAUGCC A CCAUGUU		GAACATGG GGCTAGCTACAACGA GGCATTCA 5180
	AUGCCACC A UGUUCUC	+	AGAGAACA GGCTAGCTACAACGA GGTGGCAT 5181
-	GCCACCAU G UUCUCUA		TTAGAGAA GGCTAGCTACAACGA ATGGTGGC 5182
	GUUCUCUA A UAGCACA		TTGTGCTA GGCTAGCTACAACGA TAGAGAAC 5183
2162		+	CATTTGTG GGCTAGCTACAACGA TATTAGAG 5184
	CUAAUAGC A CAAAUGA	- 	GTCATTTG GGCTAGCTACAACGA GCTATTAG 5185
	UAGCACAA A UGACAUU		AAATGTCA GGCTAGCTACAACGA TTGTGCTA 5186
2171	CACAAAUG A CAUUUUG		TCAAAATG GGCTAGCTACAACGA CATTTGTG 5187
	CAAAUGAC A UUUUGAU		GATCAAAA GGCTAGCTACAACGA GTCATTTG 5188
	ACAUUUUG A UCAUGGA	 	CTCCATGA GGCTAGCTACAACGA CAAAATGT 5189
-	UUUUGAUC A UGGAGCU		AAGCTCCA GGCTAGCTACAACGA GATCAAAA 5190
	AUCAUGGA G CUUAAGA	 	TTCTTAAG GGCTAGCTACAACGA TCCATGAT 5191
	GCUUAAGA A UGCAUCC		AGGATGCA GGCTAGCTACAACGA TCTTAAGC 5192
	UUAAGAAU G CAUCCUU		CAAGGATG GGCTAGCTACAACGA ATTCTTAA 5193
	AAGAAUGC A UCCUUGC		TGCAAGGA GGCTAGCTACAACGA GCATTCTT 5194
—	GCAUCCUU G CAGGACC		TGGTCCTG GGCTAGCTACAACGA AAGGATGC 5195
\vdash	CUUGCAGG A CCAAGGA		CTCCTTGG GGCTAGCTACAACGA CCTGCAAG 5196
-	CCAAGGAG A CUAUGUC		AGACATAG GGCTAGCTACAACGA CTCCTTGG 5197
	AGGAGACU A UGUCUGC		GGCAGACA GGCTAGCTACAACGA AGTCTCCT 5198
	GAGACUAU G UCUGCCU	 	AAGGCAGA GGCTAGCTACAACGA ATAGTCTC 5199
2228	CUAUGUCU G CCUUGCU		GAGCAAGG GGCTAGCTACAACGA AGACATAG 5200
	UCUGCCUU G CUCAAGA		GTCTTGAG GGCTAGCTACAACGA AAGGCAGA 5201
	UGCUCAAG A CAGGAAG		TCTTCCTG GGCTAGCTACAACGA CTTGAGCA 5202
ļ	ACAGGAAG A CCAAGAA		TTTCTTGG GGCTAGCTACAACGA CTTCCTGT 5203
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	GAAAAGAC A UUGCGUG	+	CCACGCAA GGCTAGCTACAACGA GTCTTTTC 5205
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	GACAUUGC G UGGUCAG		CCTGACCA GGCTAGCTACAACGA GCAATGTC 5207
	AUUGCGUG G UCAGGCA		CTGCCTGA GGCTAGCTACAACGA CACGCAAT 5208
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	GGCAGCUC A CAGUCCUA		TAGGACTG GGCTAGCTACAACGA GAGCTGCC 5211
	AGCUCACA G UCCUAGA		CTCTAGGA GGCTAGCTACAACGA TGTGAGCT 5212
	GUCCUAGA G CGUGUGG	 	GCCACACG GGCTAGCTACAACGA TCTAGGAC 5213
	CCUAGAGC G UGUGGCA	 	GTGCCACA GGCTAGCTACAACGA GCTCTAGG 5214
	UAGAGCGU G UGGCACCO	 	GGGTGCCA GGCTAGCTACAACGA ACGCTCTA 5215
2299	AGCGUGUG G CACCCAC	3930	CGTGGGTG GGCTAGCTACAACGA CACACGCT 5216

				137		
2301	CGUGUGGC A CCCACGAU	3931	ATCGTGGG	GGCTAGCTACAACGA	GCCACACG	5217
2305	UGGCACCC A CGAUCACA	3932	TGTGATCG	GGCTAGCTACAACGA	GGGTGCCA	5218
2308	CACCCACG A UCACAGGA	3933	TCCTGTGA	GGCTAGCTACAACGA	CGTGGGTG	5219
2311	CCACGAUC A CAGGAAAC	3934	GTTTCCTG	GGCTAGCTACAACGA	GATCGTGG	5220
2318	CACAGGAA A CCUGGAGA	3935	TCTCCAGG	GGCTAGCTACAACGA	TTCCTGTG	5221
2327	CCUGGAGA A UCAGACGA	3936	TCGTCTGA	GGCTAGCTACAACGA	TCTCCAGG	5222
2332	AGAAUCAG A CGACAAGU	3937	ACTTGTCG	GGCTAGCTACAACGA	CTGATTCT	5223
2335	AUCAGACG A CAAGUAUU	3938	AATACTTG	GGCTAGCTACAACGA	CGTCTGAT	5224
2339	GACGACAA G UAUUGGGG	3939	CCCCAATA	GGCTAGCTACAACGA	TTGTCGTC	5225
2341	CGACAAGU A UUGGGGAA	3940	TTCCCCAA	GGCTAGCTACAACGA	ACTTGTCG	5226
2351	UGGGGAAA G CAUCGAAG	3941	CTTCGATG	GGCTAGCTACAACGA	TTTCCCCA	5227
2353	GGGAAAGC A UCGAAGUC	3942	GACTTCGA	GGCTAGCTACAACGA	GCTTTCCC	5228
2359	GCAUCGAA G UCUCAUGC	3943	GCATGAGA	GGCTAGCTACAACGA	TTCGATGC	5229
2364	GAAGUCUC A UGCACGGC	3944	GCCGTGCA	GGCTAGCTACAACGA	GAGACTTC	5230
2366	AGUCUCAU G CACGGCAU	3945	ATGCCGTG	GGCTAGCTACAACGA	ATGAGACT	5231
2368	UCUCAUGC A CGGCAUCU	3946	AGATGCCG	GGCTAGCTACAACGA	GCATGAGA	5232
	CAUGCACG G CAUCUGGG			GGCTAGCTACAACGA		5233
	UGCACGGC A UCUGGGAA			GGCTAGCTACAACGA		5234
	AUCUGGGA A UCCCCCUC	<u> </u>		GGCTAGCTACAACGA		5235
	CCCCCUCC A CAGAUCAU			GGCTAGCTACAACGA		5236
	CUCCACAG A UCAUGUGG			GGCTAGCTACAACGA		5237
	CACAGAUC A UGUGGUUU			GGCTAGCTACAACGA		5237
	CAGAUCAU G UGGUUUAA			GGCTAGCTACAACGA		5239
	AUCAUGUG G UUUAAAGA			GGCTAGCTACAACGA		5240
	GUUUAAAG A UAAUGAGA			GGCTAGCTACAACGA		5241
	UAAAGAUA A UGAGACCC			GGCTAGCTACAACGA		5242
	AUAAUGAG A CCCUUGUA			GGCTAGCTACAACGA		5242
⊢—	AGACCCUU G UAGAAGAC			GGCTAGCTACAACGA		5244
	UGUAGAAG A CUCAGGCA			GGCTAGCTACAACGA		5245
	AGACUCAG G CAUUGUAU			GGCTAGCTACAACGA		5245
	ACUCAGGC A UUGUAUUG			GGCTAGCTACAACGA		5247
	CAGGCAUU G UAUUGAAG			GGCTAGCTACAACGA		
	GGCAUUGU A UUGAAGGA			GGCTAGCTACAACGA		5248
	AUUGAAGG A UGGGAACC		 	GGCTAGCTACAACGA		
	GGAUGGGA A CCGGAACC					5250
	GAACCGGA A CCUCACUA			GGCTAGCTACAACGA		5251
				GGCTAGCTACAACGA		5252
	GGAACCUC A CUAUCCGC			GGCTAGCTACAACGA		5253
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	CACUAUCC G CAGAGUGA			GGCTAGCTACAACGA		5255
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	GGACGAAG G CCUCUACA			GGCTAGCTACAACGA		5258
	AGGCCUCU A CACCUGCC			GGCTAGCTACAACGA		5259
	GCCUCUAC A CCUGCCAG			GGCTAGCTACAACGA		5260
	CUACACCU G CCAGGCAU			GGCTAGCTACAACGA		5261
	CCUGCCAG G CAUGCAGU		 	GGCTAGCTACAACGA		5262
	UGCCAGGC A UGCAGUGU		 	GGCTAGCTACAACGA		5263
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	GGCAUGCA G UGUUCUUG		CAAGAACA	GGCTAGCTACAACGA	TGCATGCC	5265
	CAUGCAGU G UUCUUGGC		GCCAAGAA	GGCTAGCTACAACGA	ACTGCATG	5266
	UGUUCUUG G CUGUGCAA		TTGCACAG	GGCTAGCTACAACGA	CAAGAACA	5267
	UCUUGGCU G UGCAAAAG			GGCTAGCTACAACGA		5268
2539	UUGGCUGU G CAAAAGUG	3983	CACTTTTG	GGCTAGCTACAACGA	ACAGCCAA	5269

				138		
2545	GUGCAAAA G UGGAGGCA	3984	TGCCTCCA	GGCTAGCTACAACGA	TTTTGCAC	5270
2551	AAGUGGAG G CAUUUUUC	3985	GAAAAATG	GGCTAGCTACAACGA	CTCCACTT	5271
2553	GUGGAGGC A UUUUUCAU	3986	ATGAAAAA	GGCTAGCTACAACGA	GCCTCCAC	5272
2560	CAUUUUUC A UAAUAGAA	3987	TTCTATTA	GGCTAGCTACAACGA	GAAAAATG	5273
2563	UUUUCAUA A UAGAAGGU	3988	ACCTTCTA	GGCTAGCTACAACGA	TATGAAAA	5274
2570	AAUAGAAG G UGCCCAGG	3989	CCTGGGCA	GGCTAGCTACAACGA	CTTCTATT	5275
2572	UAGAAGGU G CCCAGGAA	3990	TTCCTGGG	GGCTAGCTACAACGA	ACCTTCTA	5276
2584	AGGAAAAG A CGAACUUG	3991	CAAGTTCG	GGCTAGCTACAACGA	CTTTTCCT	5277
2588	AAAGACGA A CUUGGAAA	3992	TTTCCAAG	GGCTAGCTACAACGA	TCGTCTTT	5278
2596	ACUUGGAA A UCAUUAUU	3993	AATAATGA	GGCTAGCTACAACGA	TTCCAAGT	5279
2599	UGGAAAUC A UUAUUCUA	3994	TAGAATAA	GGCTAGCTACAACGA	GATTTCCA	5280
2602	AAAUCAUU A UUCUAGUA	3995	TACTAGAA	GGCTAGCTACAACGA	AATGATTT	5281
2608	UUAUUCUA G UAGGCACG	3996	CGTGCCTA	GGCTAGCTACAACGA	TAGAATAA	5282
2612	UCUAGUAG G CACGGCGG	3997	CCGCCGTG	GGCTAGCTACAACGA	CTACTAGA	5283
2614	UAGUAGGC A CGGCGGUG	3998	CACCGCCG	GGCTAGCTACAACGA	GCCTACTA	5284
2617	UAGGCACG G CGGUGAUU	3999	AATCACCG	GGCTAGCTACAACGA	CGTGCCTA	5285
2620	GCACGGCG G UGAUUGCC	4000	GGCAATCA	GGCTAGCTACAACGA	CGCCGTGC	5286
2623	CGGCGGUG A UUGCCAUG	4001	CATGGCAA	GGCTAGCTACAACGA	CACCGCCG	5287
2626	CGGUGAUU G CCAUGUUC	4002	GAACATGG	GGCTAGCTACAACGA	AATCACCG	5288
2629	UGAUUGCC A UGUUCUUC	4003	GAAGAACA	GGCTAGCTACAACGA	GGCAATCA	5289
2631	AUUGCCAU G UUCUUCUG	4004	CAGAAGAA	GGCTAGCTACAACGA	ATGGCAAT	5290
2640	UUCUUCUG G CUACUUCU	4005	AGAAGTAG	GGCTAGCTACAACGA	CAGAAGAA	5291
2643	UUCUGGCU A CUUCUUGU	4006	ACAAGAAG	GGCTAGCTACAACGA	AGCCAGAA	5292
2650	UACUUCUU G UCAUCAUC	4007	GATGATGA	GGCTAGCTACAACGA	AAGAAGTA	5293
2653	UUCUUGUC A UCAUCCUA	4008	TAGGATGA	GGCTAGCTACAACGA	GACAAGAA	5294
2656	UUGUCAUC A UCCUACGG	4009	CCGTAGGA	GGCTAGCTACAACGA	GATGACAA	5295
2661	AUCAUCCU A CGGACCGU	4010	ACGGTCCG	GGCTAGCTACAACGA	AGGATGAT	5296
2665	UCCUACGG A CCGUUAAG	4011	CTTAACGG	GGCTAGCTACAACGA	CCGTAGGA	5297
2668	UACGGACC G UUAAGCGG	4012	CCGCTTAA	GGCTAGCTACAACGA	GGTCCGTA	5298
2673	ACCGUUAA G CGGGCCAA	4013	TTGGCCCG	GGCTAGCTACAACGA	TTAACGGT	5299
2677	UUAAGCGG G CCAAUGGA	4014	TCCATTGG	GGCTAGCTACAACGA	CCGCTTAA	5300
2681	GCGGGCCA A UGGAGGGG	4015	CCCCTCCA	GGCTAGCTACAACGA	TGGCCCGC	5301
2691	GGAGGGGA A CUGAAGAC	4016	GTCTTCAG	GGCTAGCTACAACGA	TCCCCTCC	5302
2698	AACUGAAG A CAGGCUAC	4017	GTAGCCTG	GGCTAGCTACAACGA	CTTCAGTT	5303
2702	GAAGACAG G CUACUUGU	4018	ACAAGTAG	GGCTAGCTACAACGA	CTGTCTTC	5304
2705	GACAGGCU A CUUGUCCA	4019	TGGACAAG	GGCTAGCTACAACGA	AGCCTGTC	5305
2709	GGCUACUU G UCCAUCGU	4020	ACGATGGA	GGCTAGCTACAACGA	AAGTAGCC	5306
2713	ACUUGUCC A UCGUCAUG	4021	CATGACGA	GGCTAGCTACAACGA	GGACAAGT	5307
2716	UGUCCAUC G UCAUGGAU	4022	ATCCATGA	GGCTAGCTACAACGA	GATGGACA	5308
2719	CCAUCGUC A UGGAUCCA	4023	TGGATCCA	GGCTAGCTACAACGA	GACGATGG	5309
2723	CGUCAUGG A UCCAGAUG	4024	CATCTGGA	GGCTAGCTACAACGA	CCATGACG	5310
2729	GGAUCCAG A UGAACUCC	4025	GGAGTTCA	GGCTAGCTACAACGA	CTGGATCC	5311
2733	CCAGAUGA A CUCCCAUU	4026	AATGGGAG	GGCTAGCTACAACGA	TCATCTGG	5312
2739	GAACUCCC A UUGGAUGA	4027	TCATCCAA	GGCTAGCTACAACGA	GGGAGTTC	5313
2744	CCCAUUGG A UGAACAUU	4028	AATGTTCA	GGCTAGCTACAACGA	CCAATGGG	5314
2748	UUGGAUGA A CAUUGUGA	4029	TCACAATG	GGCTAGCTACAACGA	TCATCCAA	5315
2750	GGAUGAAC A UUGUGAAC	4030	GTTCACAA	GGCTAGCTACAACGA	GTTCATCC	5316
2753	UGAACAUU G UGAACGAC	4031	GTCGTTCA	GGCTAGCTACAACGA	AATGTTCA	5317
2757	CAUUGUGA A CGACUGCC	4032		GGCTAGCTACAACGA		5318
2760	UGUGAACG A CUGCCUUA	4033		GGCTAGCTACAACGA		5319
2763	GAACGACU G CCUUAUGA	4034		GGCTAGCTACAACGA		5320
	ACUGCCUU A UGAUGCCA	4035		GGCTAGCTACAACGA		5321
	GCCUUAUG A UGCCAGCA	4036		GGCTAGCTACAACGA		5322

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2773	CUUAUGAU G CCAGCAAA	4037	TTTGCTGG GGCTAGCTACAACGA ATCATAAG 5323
2777	UGAUGCCA G CAAAUGGG	4038	CCCATTTG GGCTAGCTACAACGA TGGCATCA 5324
2781	GCCAGCAA A UGGGAAUU	4039	AATTCCCA GGCTAGCTACAACGA TTGCTGGC 5325
2787	AAAUGGGA A UUCCCCAG	4040	CTGGGGAA GGCTAGCTACAACGA TCCCATTT 5326
2798	CCCCAGAG A CCGGCUGA	4041	TCAGCCGG GGCTAGCTACAACGA CTCTGGGG 5327
2802	AGAGACCG G CUGAAGCU	4042	AGCTTCAG GGCTAGCTACAACGA CGGTCTCT 5328
2808	CGGCUGAA G CUAGGUAA	4043	TTACCTAG GGCTAGCTACAACGA TTCAGCCG 5329
2813	GAAGCUAG G UAAGCCUC	4044	GAGGCTTA GGCTAGCTACAACGA CTAGCTTC 5330
2817	CUAGGUAA G CCUCUUGG	4045	CCAAGAGG GGCTAGCTACAACGA TTACCTAG 5331
2825	GCCUCUUG G CCGUGGUG	4046	CACCACGG GGCTAGCTACAACGA CAAGAGGC 5332
2828	UCUUGGCC G UGGUGCCU	4047	AGGCACCA GGCTAGCTACAACGA GGCCAAGA 5333
2831	UGGCCGUG G UGCCUUUG	4048	CAAAGGCA GGCTAGCTACAACGA CACGGCCA 5334
2833	GCCGUGGU G CCUUUGGC	4049	GCCAAAGG GGCTAGCTACAACGA ACCACGGC 5335
2840	UGCCUUUG G CCAAGUGA	4050	TCACTTGG GGCTAGCTACAACGA CAAAGGCA 5336
		4051	TTCAATCA GGCTAGCTACAACGA TTGGCCAA 5337
	GCCAAGUG A UUGAAGCA	4052	TGCTTCAA GGCTAGCTACAACGA CACTTGGC 5338
	UGAUUGAA G CAGAUGCC	4053	GGCATCTG GGCTAGCTACAACGA TTCAATCA 5339
	UGAAGCAG A UGCCUUUG	4054	CAAAGGCA GGCTAGCTACAACGA CTGCTTCA 5340
	AAGCAGAU G CCUUUGGA	4055	TCCAAAGG GGCTAGCTACAACGA ATCTGCTT 5341
-	CCUUUGGA A UUGACAAG	4056	CTTGTCAA GGCTAGCTACAACGA TCCAAAGG 5342
			CTGTCTTG GGCTAGCTACAACGA CAATTCCA 5343
	UGGAAUUG A CAAGACAG	4057	AGTTGCTG GGCTAGCTACAACGA CTTGTCAA 5344
	UUGACAAG A CAGCAACU		
	ACAAGACA G CAACUUGC	4059	
-	AGACAGCA A CUUGCAGG	4060	CCTGCAAG GGCTAGCTACAACGA TGCTGTCT 5346
-	AGCAACUU G CAGGACAG	4061	CTGTCCTG GGCTAGCTACAACGA AAGTTGCT 5347
	CUUGCAGG A CAGUAGCA	4062	TGCTACTG GGCTAGCTACAACGA CCTGCAAG 5348
 	GCAGGACA G UAGCAGUC	4063	GACTGCTA GGCTAGCTACAACGA TGTCCTGC 5349
	GGACAGUA G CAGUCAAA	4064	TTTGACTG GGCTAGCTACAACGA TACTGTCC 5350
2902		4065	CATTTTGA GGCTAGCTACAACGA TGCTACTG 5351
2908		4066	TTTCAACA GGCTAGCTACAACGA TTTGACTG 5352
	GUCAAAAU G UUGAAAGA	4067	TCTTTCAA GGCTAGCTACAACGA ATTTTGAC 5353
 	AAGAAGGA G CAACACAC	4068	GTGTGTTG GGCTAGCTACAACGA TCCTTCTT 5354
2926	AAGGAGCA A CACACAGU	4069	ACTGTGTG GGCTAGCTACAACGA TGCTCCTT 5355
2928	GGAGCAAC A CACAGUGA	4070	TCACTGTG GGCTAGCTACAACGA GTTGCTCC 5356
2930	AGCAACAC A CAGUGAGC	4071	GCTCACTG GGCTAGCTACAACGA GTGTTGCT 5357
2933	AACACACA G UGAGCAUC	4072	GATGCTCA GGCTAGCTACAACGA TGTGTGTT 5358
2937	CACAGUGA G CAUCGAGC	4073	GCTCGATG GGCTAGCTACAACGA TCACTGTG 5359
2939	CAGUGAGC A UCGAGCUC	4074	GAGCTCGA GGCTAGCTACAACGA GCTCACTG 5360
2944	AGCAUCGA G CUCUCAUG	4075	CATGAGAG GGCTAGCTACAACGA TCGATGCT 5361
2950	GAGCUCUC A UGUCUGAA	4076	TTCAGACA GGCTAGCTACAACGA GAGAGCTC 5362
2952	GCUCUCAU G UCUGAACU	4077	AGTTCAGA GGCTAGCTACAACGA ATGAGAGC 5363
2958	AUGUCUGA A CUCAAGAU	4078	ATCTTGAG GGCTAGCTACAACGA TCAGACAT 5364
2965	AACUCAAG A UCCUCAUU	4079	AATGAGGA GGCTAGCTACAACGA CTTGAGTT 5365
2971	AGAUCCUC A UUCAUAUU	4080	AATATGAA GGCTAGCTACAACGA GAGGATCT 5366
2975	CCUCAUUC A UAUUGGUC	4081	GACCAATA GGCTAGCTACAACGA GAATGAGG 5367
2977	UCAUUCAU A UUGGUCAC	4082	GTGACCAA GGCTAGCTACAACGA ATGAATGA 5368
2981	UCAUAUUG G UCACCAUC	4083	GATGGTGA GGCTAGCTACAACGA CAATATGA 5369
2984	UAUUGGUC A CCAUCUCA	4084	TGAGATGG GGCTAGCTACAACGA GACCAATA 5370
2987	UGGUCACC A UCUCAAUG	4085	CATTGAGA GGCTAGCTACAACGA GGTGACCA 5371
2993	CCAUCUCA A UGUGGUCA	4086	TGACCACA GGCTAGCTACAACGA TGAGATGG 5372
	AUCUCAAU G UGGUCAAC	4087	GTTGACCA GGCTAGCTACAACGA ATTGAGAT 5373
	UCAAUGUG G UCAACCUU		AAGGTTGA GGCTAGCTACAACGA CACATTGA 5374
3002		4089	CTAGAAGG GGCTAGCTACAACGA TGACCACA 5375
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				140		
3011	CCUUCUAG G UGCCUGUA	4090	TACAGGCA	GGCTAGCTACAACGA	CTAGAAGG	5376
3013	UUCUAGGU G CCUGUACC	4091	GGTACAGG	GGCTAGCTACAACGA	ACCTAGAA	5377
3017	AGGUGCCU G UACCAAGC	4092	GCTTGGTA	GGCTAGCTACAACGA	AGGCACCT	5378
3019	GUGCCUGU A CCAAGCCA	4093	TGGCTTGG	GGCTAGCTACAACGA	ACAGGCAC	5379
3024	UGUACCAA G CCAGGAGG	4094	CCTCCTGG	GGCTAGCTACAACGA	TTGGTACA	5380
3033	CCAGGAGG G CCACUCAU	4095	ATGAGTGG	GGCTAGCTACAACGA	CCTCCTGG	5381
3036	GGAGGGCC A CUCAUGGU	4096	ACCATGAG	GGCTAGCTACAACGA	GGCCCTCC	5382
3040	GGCCACUC A UGGUGAUU	4097	AATCACCA	GGCTAGCTACAACGA	GAGTGGCC	5383
3043	CACUCAUG G UGAUUGUG	4098	CACAATCA	GGCTAGCTACAACGA	CATGAGTG	5384
3046	UCAUGGUG A UUGUGGAA	4099	TTCCACAA	GGCTAGCTACAACGA	CACCATGA	5385
3049	UGGUGAUU G UGGAAUUC	4100	GAATTCCA	GGCTAGCTACAACGA	AATCACCA	5386
3054	AUUGUGGA A UUCUGCAA	4101	TTGCAGAA	GGCTAGCTACAACGA	TCCACAAT	5387
3059	GGAAUUCU G CAAAUUUG	4102	CAAATTTG	GGCTAGCTACAACGA	AGAATTCC	5388
3063	UUCUGCAA A UUUGGAAA	4103	TTTCCAAA	GGCTAGCTACAACGA	TTGCAGAA	5389
3071	AUUUGGAA A CCUGUCCA	4104	TGGACAGG	GGCTAGCTACAACGA	TTCCAAAT	5390
3075	GGAAACCU G UCCACUUA	4105	TAAGTGGA	GGCTAGCTACAACGA	AGGTTTCC	5391
3079	ACCUGUCC A CUUACCUG	4106	CAGGTAAG	GGCTAGCTACAACGA	GGACAGGT	5392
3083	GUCCACUU A CCUGAGGA	4107	TCCTCAGG	GGCTAGCTACAACGA	AAGTGGAC	5393
3092	CCUGAGGA G CAAGAGAA	4108	TTCTCTTG	GGCTAGCTACAACGA	TCCTCAGG	5394
3101	CAAGAGAA A UGAAUUUG	4109	CAAATTCA	GGCTAGCTACAACGA	TTCTCTTG	5395
3105	AGAAAUGA A UUUGUCCC	4110	GGGACAAA	GGCTAGCTACAACGA	TCATTTCT	5396
3109	AUGAAUUU G UCCCCUAC	4111	GTAGGGGA	GGCTAGCTACAACGA	AAATTCAT	5397
3116	UGUCCCCU A CAAGACCA	4112	TGGTCTTG	GGCTAGCTACAACGA	AGGGGACA	5398
3121	CCUACAAG A CCAAAGGG	4113	CCCTTTGG	GGCTAGCTACAACGA	CTTGTAGG	5399
3130	CCAAAGGG G CACGAUUC	4114	GAATCGTG	GGCTAGCTACAACGA	CCCTTTGG	5400
3132	AAAGGGGC A CGAUUCCG	4115	CGGAATCG	GGCTAGCTACAACGA	GCCCCTTT	5401
3135	GGGGCACG A UUCCGUCA	4116	TGACGGAA	GGCTAGCTACAACGA	CGTGCCCC	5402
3140	ACGAUUCC G UCAAGGGA	4117	TCCCTTGA	GGCTAGCTACAACGA	GGAATCGT	5403
3152	AGGGAAAG A CUACGUUG	4118	CAACGTAG	GGCTAGCTACAACGA	CTTTCCCT	5404
3155	GAAAGACU A CGUUGGAG	4119	CTCCAACG	GGCTAGCTACAACGA	AGTCTTTC	5405
3157	AAGACUAC G UUGGAGCA	4120	TGCTCCAA	GGCTAGCTACAACGA	GTAGTCTT	5406
3163	ACGUUGGA G CAAUCCCU	4121	AGGGATTG	GGCTAGCTACAACGA	TCCAACGT	5407
3166	UUGGAGCA A UCCCUGUG	4122	CACAGGGA	GGCTAGCTACAACGA	TGCTCCAA	5408
3172	CAAUCCCU G UGGAUCUG	4123	CAGATCCA	GGCTAGCTACAACGA	AGGGATTG	5409
3176	CCCUGUGG A UCUGAAAC	4124	GTTTCAGA	GGCTAGCTACAACGA	CCACAGGG	5410
3183	GAUCUGAA A CGGCGCUU	4125	AAGCGCCG	GGCTAGCTACAACGA	TTCAGATC	5411
3186	CUGAAACG G CGCUUGGA	4126	TCCAAGCG	GGCTAGCTACAACGA	CGTTTCAG	5412
3188	GAAACGGC G CUUGGACA	4127	TGTCCAAG	GGCTAGCTACAACGA	GCCGTTTC	5413
3194	GCGCUUGG A CAGCAUCA	4128	TGATGCTG	GGCTAGCTACAACGA	CCAAGCGC	5414
3197	CUUGGACA G CAUCACCA	4129	TGGTGATG	GGCTAGCTACAACGA	TGTCCAAG	5415
3199	UGGACAGC A UCACCAGU	4130		GGCTAGCTACAACGA		5416
3202	ACAGCAUC A CCAGUAGC	4131		GGCTAGCTACAACGA		5417
3206	CAUCACCA G UAGCCAGA	4132	TCTGGCTA	GGCTAGCTACAACGA	TGGTGATG	5418
3209	CACCAGUA G CCAGAGCU	4133	AGCTCTGG	GGCTAGCTACAACGA	TACTGGTG	5419
3215	UAGCCAGA G CUCAGCCA	4134	TGGCTGAG	GGCTAGCTACAACGA	TCTGGCTA	5420
	AGAGCUCA G CCAGCUCU	4135	AGAGCTGG	GGCTAGCTACAACGA	TGAGCTCT	5421
3224	CUCAGCCA G CUCUGGAU	4136	ATCCAGAG	GGCTAGCTACAACGA	TGGCTGAG	5422
3231	AGCUCUGG A UUUGUGGA	4137		GGCTAGCTACAACGA		5423
	CUGGAUUU G UGGAGGAG	4138	CTCCTCCA	GGCTAGCTACAACGA	AAATCCAG	5424
	GAGGAGAA G UCCCUCAG	4139	CTGAGGGA	GGCTAGCTACAACGA	TTCTCCTC	5425
	GUCCCUCA G UGAUGUAG	4140	CTACATCA	GGCTAGCTACAACGA	TGAGGGAC	5426
3257	CCUCAGUG A UGUAGAAG	4141	CTTCTACA	GGCTAGCTACAACGA	CACTGAGG	5427
	UCAGUGAU G UAGAAGAA	4142	TTCTTCTA	GGCTAGCTACAACGA	ATCACTGA	5428

2244 LOCUAGAS A LUCUEGAS 4143 TTCAGGAS GGCTAGCTACAGGA TTCCTCTT 5429					
3288 GARGAUCU G. URUAAGGA 4145 TCCTTATA GGCTAGCTACAACGA AGATCTTC 5431	3274	AAGAGGAA G CUCCUGAA	4143	TTCAGGAG GGCTAGCTACAACGA TTCCTCTT	5429
3296 RABUCUGU A URAGGACU 4146 AGTCCTTA GGCTAGCTACAACGA ACAGATCT 5332 3296 GURUNARGA A CUUCCUGA 4147 TCAGGAAG GGCTAGCTACAACGA CCTTATAC 5433 3044 ACUUCGUGA C CUUGGAG 4148 CTCCAAGG GGCTAGCTACAACGA CCTTATAC 5433 3044 ACUUCGGAC A UCUCAUU 4149 ATGAGATG GGCTAGCTACAACGA CAGGAAGT 5434 3312 ACCUUGGA G CAUCUCAU 4149 ATGAGATG GGCTAGCTACAACGA CACCAGGT 5436 3314 ACCUUGGAC A UCUCAUCU 4150 ATGAGAGA GGCTAGCTACAACGA ACCAGATGCT 5437 3329 ACCUUCCA A UCUCUAUC 4151 GTAACAGA GGCTAGCTACAACGA ACCAGATGCT 5437 3321 CUCCALCU C AUCUCCAU 4152 GGCAGAGTG GGCTAGCTACAACGA ACCAGATGCT 5437 3322 CUCUCAAC GUUCCAAC 4153 GGAAGCTG GGCTAGCTACAACGA ACCAGATG 5436 3326 CAUCUGUU A CAGCUUCC 4153 GGAAGCTG GGCTAGCTACAACGA ACCAGATG 5439 3327 CUCUCCAAC GUUCCAAC 4154 CTTGGAAC GGCTAGCTACAACGA ACCAGATG 5440 3337 GCUUCCAAC GUUCCAAC 4156 GGCCTTAGG GGCTAGCTACAACGA TGTAACAC 5441 3340 UCCAAGGUG G CUAAGGCC 4156 GGCCTTAG GGCTAGCTACAACGA CACTTGGA 5442 3347 GCUACAGG G UUCUGGC 4156 GGCCTTAG GGCTAGCTACAACGA CACTTGGA 5443 3349 UAAGGGC A UGAGAGUU 4158 GACACTCA GGCTAGCTACAACGA CACTTGGA 5443 3340 UCCAGAGUG G UUCUGGC 4156 GGCCTAGG GGCTAGCTACAACGA CACTTGGC 5443 3341 GUUCUUG G CAUCGCGA 4160 TCGCCGATG GGCTAGCTACAACGA CCCTTAGC 5443 3342 GUACAGGA GUUCUGGC 4156 GCCCTAGA GGCTAGCTACAACGA CCCTTGGC 5445 3354 GGCAAGGAG GUUCUGGC 4156 GCCCATAGA GGCTAGCTACAACGA CCCTTGCC 5445 3364 GCCAGCAGG GUUCUGGC 4156 GCCCACAGA GGCTAGCTACAACGA CCCTTGCC 5445 3364 GCCACAGGA GUUCUGGC 4160 TCGCGATG GCTAGCTACAACGA CCCTTGCC 5445 3364 GUUCUUG G CAUCGCGA 4161 TCGCGGATG GCTAGCTACAACGA CCCATGCC 5445 3374 GAAAAGAG 4164 TCGCGGAA GGCTAGCTACAACGA CCCATGCC 5445 3374 GAAAAGAGU AUCCACA 4164 TGTGGGAT GCCAACGAA TCCACCG GCTAGCTACAACGA CACGTAGCAACGA CCCACGG 4167 TCGCCA GGCTAGCTACAACGA ACCTTTCG GCTAGCTACAACGA ACCTTTCGC 5450 3386 CUGCGCACG GUACCACAG 4166 GGCCCGG GCTAGCTACAACGA ACCTTTCGC 5451 3391 GGGAACGU G CACACAGA 4164 TGTGGAT GCCAACGA GCCACGG 5449 3391 GGGAACGU G CACCACAG 4166 GGCCACGG GCTAGCTACAACGA ACCTTTCGC 5451 3391 GGAACCUC G CACCACAG 4166 GCCCACAGG GCCTAGCTACAACGA ACCTTTCCC 5461 3391 GAAAAGUG A UCCUCUUA 4172 TAACACAG GCCT	3284	UCCUGAAG A UCUGUAUA	4144	TATACAGA GGCTAGCTACAACGA CTTCAGGA	5430
3296 GUAUAAGG A CUUCCUGA 4147 TCAGGRAG GGCTAGCTACAACGA CCTTATAC 5433 3340 ACUUCCUGA CAUCUCAU 4149 ATGAGRAG GGCTAGCTACAACGA CAGGAAGT 5435 3312 ACCUUGGA G AUCUCAU 4150 ATGAGRAG GGCTAGCTACAACGA CAGAGAGT 5435 3314 CUUGGAGC A UCUCAUCU 4150 AGATGAGA GGCTAGCTACAACGA CCCAAGGT 5435 3319 AGCAUCUC A UCUGUUCU 4150 AGATGAGA GGCTAGCTACAACGA GCCCCAAGGT 5436 3323 UCCACACUC A UCUGUUCU 4151 AGATGAGA GGCTAGCTACAACGA GACATGAGA 5438 3323 UCCACACUC A UCUGUUCC 4153 GGAAGCTG GGCTAGCTACAACGA GACATGAGA 5438 3326 CAUCUCUA CAGCUUCC 4153 GGAAGCTG GGCTAGCTACAACGA AACAGATG 5439 3327 CUUCCAA G UUCCAAG 4154 TTTGGAGA GGCTAGCTACAACGA ACAGATG 5440 3340 UCCAAGUG G CUUCCAAG 4155 TTTGGAGA GGCTAGCTACAACGA TGTAACGA 5440 3347 GGCUAAGG G CUUCCAAG 4155 TTTGGAGA GGCTAGCTACAACGA TGTAACGA 5441 3340 UCCAAGUG G CAUGAGGC 4156 GCCCTTAG GGCTAGCTACAACGA TGTAACGA 5441 3341 GGCUAAGG G CAUGAGAG 4157 ACTCCATG GGCTAGCTACAACGA CACTTGGA 5442 3349 CUAAGGGC A UGGAGUU 4158 GACTCCA GGCTAGCTACAACGA CCCTTAGC 5443 3341 GGCUAAGG G UUCUUGC 4159 GCCAAGAA GGCTAGCTACAACGA TCCATGCC 5443 3341 GGCUAGGA G UUCUUGC 4159 GCCAAGAA GGCTAGCTACAACGA TCCATGCC 5443 3342 UCUUGCGA G UUCUUGC 4159 GCCAAGAA GGCTAGCTACAACGA TCCATGCC 5445 3343 UUCUUGC A UCGCGAAA 4160 TCGCGAT GGCTAGCTACAACGA CCCTTAG 5444 3354 UUCUUGC A UCGCGAAA 4161 TTTCGGGA GCTAGCTACAACGA CAAGAACT 5446 3374 GCGAAAGUG A UCCACAGG 4165 TCGCGAT GGCTAGCTACAACGA ACCTTAGC 5449 3374 GCGAAAGUG A UCCACAGG 4165 GGTAGCTACAACGA ACCTATCGC 5450 3376 CAGAAAGUG A UCCACAGG 4166 GGTCCCTG GGCTAGCTACAACGA ACCTTTCG 5450 3376 CACGAGAA A UCCACAGG 4166 GGTCCCTG GGCTAGCTACAACGA ACCTTTCG 5450 3380 GUGUAUCC A CGGGACGA 4168 TCGTGCCGG GGCTAGCTACAACGA ACCTTTCG 5450 3391 ACCUGGG G CACGAAAU 4167 CCGCCAGG GGCTAGCTACAACGA ACCTTTCG 5450 3391 ACCUGGG G CACGAAAU 4167 CCGCCAGG GGCTAGCTACAACGA ACCTTTCG 5450 3391 ACCUGGC G CACGAAAU 4169 TCTTCGGA GGCTAGCTACAACGA ACCTTTCG 5450 3401 GGACCGG G CACGAAAU 4167 TCTCGGA GGCTAGCTACAACGA ACCTTCTC 5460 3401 GGACCGGA A UAUUAUA 4172 TAACAACG GGCTAGCTACAACGA ACCTTCTC 5460 3401 CACGAGAG A UAUUAUA 4172 TAACAACG GGCTAGCTACAACGA ACCTTCTC 5460	3288	GAAGAUCU G UAUAAGGA	4145	TCCTTATA GGCTAGCTACAACGA AGATCTTC	5431
3304 NCUUCCUG A CCUUGGAG 4148	3290	AGAUCUGU A UAAGGACU	4146	AGTCCTTA GGCTAGCTACAACGA ACAGATCT	5432
3312 ACCUUGGA G CAUCUCAU 4149 ATGAGATG GGCTAGCTACAACGA TCCAAGGT 5335 3314 AGCAUCCA A UCUCAUCU 4150 AGATGAGA GGCTAGCTACAACGA GCTCCAAG 5436 3319 AGCAUCUC A UCUCAUCU 4151 GTAACAGA GGCTAGCTACAACGA AGATGCT 5437 3323 UCUCAUCU G UUACAGCU 4152 AGCTGTAA GGCTAGCTACAACGA AGATGAGA 5438 3326 CAUCUGAC CAUCUCCA 4153 GGAAGGTG GGCTAGCTACAACGA ACAGATG 5439 3329 CGUUACA GUGCCAAG 4154 CTTGGAGA GGCTAGCTACAACGA ACAGATG 5440 3337 GCUUCCA G UGGCUAAG 4155 CTTAGCCA GGCTAGCTACAACGA TTGGAAGG 5441 3337 GCUUCCAA G UGGCUAAG 4155 CTTAGCCA GGCTAGCTACAACGA TTGGAAGG 5441 3334 GCUAAGG CUAAGGGC 4156 GCCCTTAG GGCTAGCTACAACGA CTTTGGC 5442 3347 GGCUAAGG GCUAGGAGU 4158 GAACTCCA GGCTAGCTACAACGA CCTTTGGC 5443 3349 CUAAGGGC A UGAGGGU 4158 GAACTCCA GGCTAGCTACAACGA GCCTTAGG 5443 3346 GCAUGGA GUCUUGGGA 4161 TTTCGCGA GGCTAGCTACAACGA GCCTTAGG 5444 3364 UUCUUGGC AUGAGGA 4161 TTTCGCGA GGCTAGCTACAACGA GCCAGAAA 5446 3362 UUCUUGGC CAUAGGAA 4161 TTTCGCGA GGCTAGCTACAACGA GAGAACC 5445 3372 UGCGAAA GUACCAACA 4164 TGTGGAT GGCTAGCTACAACGA GAGAACC 5449 3372 UGCGAAA GUACCAACA 4164 TGTGGAT GGCTAGCTACAACGA AGAACCC 5445 3376 GAGAAGUG A UCCACAG 4165 TGTGGAT GGCTAGCTACAACGA AGAACCC 5449 3372 UGCGAAA GUACCACA 4164 TGTGGAT GGCTAGCTACAACGA AGAACCC 5450 3386 CCACAGGG ACCACGGA 4166 GGTCCCTGGG GCTAGCTACAACGA ACCTTTC 5451 3386 CCACAGGG ACCACGAG 4166 GGTCCCTGG GCTAGCTACAACGA ACCTTTC 5451 3386 CCACAGGG ACCACGAA 4164 TGTGGAT GGCTAGCTACAACGA ACCTTTC 5451 3386 CCACAGGG ACCACGAG 4166 GGTCCCTGG GCTAGCTACAACGA ACCTTTC 5452 3381 GGGACCG ACCACGAG 4166 GGTCAGCTACAACGA ACCTTTC 5452 3381 GGGACCGG ACCACGAG 4166 GGTCAGCTACAACGA ACCTTTC 5453 3391 ACCUGGGG ACCACGAA 4164 TGTGGAT GGCTAGCTACAACGA ACCTTTC 5453 3491 ACAGAGGG ACCACGAA 41	3296	GUAUAAGG A CUUCCUGA	4147	TCAGGAAG GGCTAGCTACAACGA CCTTATAC	5433
3314 CUUGGAGC A UCUCAUCU 4150 AGATGAGA GGCTAGCTACAACGA GCTCCAAG 5336 3319 AGCAUCUC A UCUGUUAC 4151 AGATGAGA GGCTAGCTACAACGA GAGATGCT 5437 3323 UCUCCALCU G ULACAGCU 4152 AGCTGATA GGCTAGCTACAACGA AGATGAGA 5436 3326 CAUCUGUU A CAGCUUCC 4153 GGAAGCTG GGCTAGCTACAACGA AGATGAGA 5436 3327 CUUCCAA G CUUCCAAG 4154 CTTGGAAG GGCTAGCTACAACGA ACAGGATG 5430 3329 CUUUCCAA G UGCCAAG 4155 CTTAGCCA GGCTAGCTACAACGA TGTAACAG 5440 3340 UCCAAGUG G CUCAGAGA 4155 CTTAGCCA GGCTAGCTACAACGA TGGAACACG 5441 3341 GGCUAAGG G CUCAGAGA 4155 CTCAGCCA GGCTAGCTACAACGA CACTTGGA 5442 3342 GGUAAGG G CAUGGAGA 4155 GCCCTTAG GGCTAGCTACAACGA CACTTGGC 5443 3343 GCUAAGGG C AUGGAGAU 4157 ACTCCATG GGCTAGCTACAACGA CACTTGGC 5443 3344 CUAAGGGC A UGGAGAGU 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAG 5444 3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CACTTGGC 5445 3363 UUCUUGG C AUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA CACAGAA 5446 3364 UUCUUGGC A UCGCGAA 4161 TTTCGCGA GGCTAGCTACAACGA CACAGAACT 5446 3372 UCGCGAAC G CGAAAAGUG 4162 CACTTTCG GGCTAGCTACAACGA GATGCCAA 5449 3374 CCGAAAGU G UAUCCACA 4163 TGGATACA GGCTAGCTACAACGA GATGCCAA 5449 3376 GAAAGUGU A UCCACACA 4164 TGGGATG GGCTAGCTACAACGA ACTTTCCC 5451 3386 UUGUUGC A CAGGGAC 4166 GGTCCCTG GGCTACAACGA ACTTTCCC 5451 3386 CUAGCAGG A CCUGCCG 4166 GGTCCCTG GGCTACAACGA GACTTCTC 5451 3391 GGCACCUG G CAGGAAAU 4169 ATTTCGTG GGCTACAACGA GAGATCAC 5452 3394 ACCUGGCG C CAGGAAAU 4169 ATTTCGTG GGCTACAACGA GAGTTCCC 5454 3394 ACCUGGCG C CAGGAAAU 4169 ATTTCGTG GGCTACAACGA ACTTTCCC 5451 3396 CUAGCAGG A CUAGCCGA 4166 GGTCCCTG GGCTACAACGA ACTTTCCC 5451 3391 GGAACCUG G CGGGAGA 4164 TCCTGCCG GGCTAGCTACAACGA ACTTTCCC 5451 3396 CUAGCAGG A CUAGCCGA 4167 TCCTCGCAG GGCTAGCTACAACGA ACTTTCCC 5451 3391 GGAACCUG G CAGGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA ACTTTTCC 5451 3391 GGAACCUG G CAGGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA ACTTTTC 5561 3491 ACCUGCCA A UAUCUCU 4171 AGAGGATA GGCTACAACGA ACTTTTC 5561 3491 ACCUGCCA A UAUCUCU 4171 AGAGGATA GGCTACAACGA ACTTTCT 5561 3492 GAGACGG A CAGAAAUA 4169 ATTTCGGA GGCTACCAACGA ACGAGTACCAACAGA ACTTTCT 5561 3492 AGAGG	3304	ACUUCCUG A CCUUGGAG	4148	CTCCAAGG GGCTAGCTACAACGA CAGGAAGT	5434
3319 AGCAUCUC A UCUGUUAC 4151 GTAACAGA GGCTAGCTACAACGA GAGATGCT 5437 3323 UCUCADUU C UURCAGCU 4152 AGCTGTAA GGCTAGCTACAACGA ACATGACA 5438 3326 CAUCUGUU A CAGCUUCC 4153 GGAAGCTG GGCTAGCTACAACGA ACATGACA 5449 3327 CUGUUCCAA G UGUCUCAA 4154 CTTGGAG GGCTAGCTACAACGA TGTAACAG 5440 3327 GCUUCCAA G UGCCUAAG 4155 CTTAGCCA GGCTACATCAACGA TGTAACAG 5441 3340 UCCAAGUG G CUAAGGGC 4156 GCCCTTTAG GGCTAGCTACAACGA CACTTGGG 5442 3347 GGCUAAGG G CAUGGAGU 4158 GAACTCCA GGCTACACACGA CACTTGGC 5443 3349 UCAAGUGA G UUGUUGGC 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAGC 5443 3349 GUAAGGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAGC 5445 3345 GGCUAGGA G UUGUUGGC 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAGC 5445 3361 AGUUCUUG G CAUCGCGA 4169 CCCAGGAA GGCTAGCTACAACGA CCCATGA 5446 3366 UUGUGGA 4162 CACTTCG GGCTAGCTACAACGA CACAGACAC 5446 3366 UUGUGGAU G CGAAAGAU 4162 CACTTCG GGCTAGCTACAACGA CACAGACAC 5449 3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA ACTTCCGC 5450 3376 CAAAGUU A UCCACAGA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCCCC 5450 3376 CAAAGUU A UCCACAGA 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCCCC 5450 3386 CUGACGAC ACCAGGA 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCCCC 5450 3386 CUGACGAC ACCAGGA 4166 GGTCCCTG GGCTAGCTACAACGA ACCTTCC 5451 3391 GGACCUG CAGGACACAC 4166 GGTCCCTG GGCTAGCTACAACGA ACCTTTCC 5451 3394 ACCUGCCG CCGACGGA 4168 TCGTGCCG GGCTAGCTACAACGA ACCTTTC 5451 3394 ACCUGCAG CCGACGAC 4166 GGTCCCTG GGCTAGCTACAACGA CCCTGTTGG 5453 3394 ACCUGCGC CGGACGACA 4168 TCGTGCCG GGCTAGCTACAACGA CCCTGTTGG 5453 3394 ACCUGCGC CGGACGACA 4168 TCGTGCCG GGCTAGCTACAACGA CCCTGTTGG 5453 3394 ACCUGCAG CCGAGGA 4168 TCTTCCCGC GGCTAGCTACAACGA CCCTGTTGG 5453 3401 GGACGAC ACGAGACA 4168 TCTTCCCGC GGCTAGCTACAACGA CCCTGTTGG 5453 3494 ACCUGCCG CCGAGGAA 4168 T	3312	ACCUUGGA G CAUCUCAU	4149	ATGAGATG GGCTAGCTACAACGA TCCAAGGT	5435
3323 UCUCAUCU 6 UUACAGCU 4152 AGCTGTAA GGCTAGCTACAACGA AGATGACA 5338 3326 CAUCUGUU A CAGCUUCC 4153 GGAAGTG GGCTAGCTACAACGA AACAGATG 5439 3329 CUUUCACA 6 UGGCUAAG 4154 CTTGGCAG GGCTAGCTACAACGA TGTAACAG 5440 3337 GCUUCCAA 6 UGGCUAAG 4155 CTTAGCCA GGCTAGCTACAACGA TGGAACG 5441 3340 UCCAAGUG 6 CUAAGGGC 4156 GCCTTTAG GGCTAGCTACAACGA CACTTGGA 5442 3347 GGCUAAGG 6 CAUGAGGC 4156 GCCTTTAG GGCTAGCTACAACGA CACTTGGA 5443 3349 CUAAGGG C AUGAAGGC 4159 GACCACAG GGCTAGCTACAACGA CCCTTAG 5443 3341 GGCAAGG G UCUUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAG GGCTAGCTACAACGA CCCTTAG 5444 3354 GGCAAGG G UCUUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAG 5444 3354 UUCUUGG C AUGCGCA 4160 TCCGGATG GGCTAGCTACAACGA CCACTGC 5445 3361 AGUUCUUG C CACAGCGA 4160 TCCGGATG GGCTAGCTACAACGA CAAGAACT 5446 3363 UUCUUGGC A UGCCGAAA 4161 TCTCGCGAT GGCTAGCTACAACGA GCAAGAA 5447 3364 UUCUUGG C CAAAGUG 4162 CACTTTCG GGCTAGCTACAACGA GATGCCCAA 5446 3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA ACTTTCC 5451 3374 GCGAAAGU G UAUCCAC 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCC 5451 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCC 5451 3386 CACAGGGA CUGGCGG 4166 GGTCCCTG GGCTAGCTACAACGA ACTTTC 5451 3391 GGGACCUG G CGGCACGA 4168 TCCGTCGG GGCTAGCTACAACGA ACCTTTC 5451 3392 GGGACCUG G CGCACAGA 4168 TCCGTCGAG GGCTAGCTACAACGA ACCTTTC 5451 3394 ACUGGCG C CACGAAA 4168 TCCGTCGG GGCTAGCTACAACGA ACCTTTC 5451 3394 ACUGGCG C CACGAAA 4167 CCGCCAGG GGCTAGCTACAACGA ACCTTTC 5454 3394 ACUGGCG C CACGAAA 4167 CCGCCAGG GGCTAGCTACAACGA CCCCCCCG 5454 3401 GGCACAGA A UAUCCUU 4170 ATATTCG GGCTAGCTACAACGA CCCCCCCG 5454 3401 GGCACAGA A UAUCCUU 4171 AGAGGATA GGCTACAACGA CCCCCCCG 5456 3401 GGCACGAA A UAUCCUU 4171 AGAGGAGA GGCTAGCTACAACGA CCCCCCCG 5456 3401 GGCACGAA A UAUCCUU 4171 AGAGGAGA GGCTAGCTACAACGA ACGACCA A	3314	CUUGGAGC A UCUCAUCU	4150	AGATGAGA GGCTAGCTACAACGA GCTCCAAG	5436
3326 CAUCUGUU A CAGCUUCC 4153 GGAAGCTG GGCTAGCTACAACGA AACAGATG 5449 3329 CUUUCCAA G CUUCCAAG 4154 CTTGGAAG GGCTAGCTACAACGA TGTAACAG 5440 3339 CUUCCAA G UGGCUAAG 4155 CTTAGCCA GGCTAGCTACAACGA TGTAACAG 5441 3340 UCCAAGUG G CUAAGGGC 4156 GCCCTTAG GGCTAGCTACAACGA CACTTGGA 5442 3349 CUAAGGGC A UGGAGUUC 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAGC 5443 3349 CUAAGGGC A UGGAGUUC 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAGC 5443 3354 GCCAUGAG G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAG 5445 3361 AGUUCUUG G CAUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA CCCTTAG 5445 3361 AGUUCUUG G CAUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA CAAGAACT 5446 3366 UUGCACAC A UGAAGAC 4162 CACCTTTC G GGCTAGCTACAACGA CATGCCAA 5446 3372 UCCUCGAA 6161 TCGCGATG GGCTACAACGA CATGCCAA 5446 3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTAACGAA CATTCCCCA 5450 3374 GCGAAAGU 4162 CACCTTTC G GGCTAGCTACAACGA ACTTTCCC 5450 3376 GAAGGUU A UCCACAGG 4165 CCTTGTGG GGCTAGCTACAACGA ACTTTCC 5451 3380 GUUGUUCCA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCC 5451 3380 GUUGUUCCA 4166 GGTCCCTG GGCTAGCTACAACGA ACCTTTC 5451 3391 GGGACCU G CAGGAAGU 4167 CCGCCAGG GGCTAGCTACAACGA ACCTTTC 5453 3391 GGGACCU G CAGGAAGU 4167 CCGCCAGG GGCTAGCTACAACGA CACCTTTC 5453 3394 ACCUGGCG G CACGAAGU 4169 ATTTCGTG GGCTAGCTACAACGA CACGGTCCC 5456 3394 ACCUGGCG G CACGAAGU 4170 ATATTTCG GGCTAGCTACAACGA CACGGTCCC 5456 3494 3494 AUCUCUU A UCGGGAGA 4168 ATTTCGTG GGCTAGCTACAACGA CACCGGT 5455 3494 3494 AAUCUCUU A UCGGGAGA 4167 ATATTTCG GGCTAGCTACAACGA CACCGGT 5456 3494 3494 AAUCUCUU A UCGGGAGA 4169 ATTTCGTG GGCTAGCTACAACGA CACCGGT 5457 3494 ACUGGCGG G CACGAGAA 4169 ATTTCGTG GGCTAGCTACAACGA CACCGGT 5457 3494 AAAGAAC G UGGUUAA 4172 ATAGCACG GGCTAGCTACAACGA ATTTCCTC 5460 3494 AAAGAAC G UGGAGAA 4175 TCTCCGG GGCTAGCTACAACGA ATTTCCTC 5460 3494 AAAGACG G UGGAGAA 4175	3319	AGCAUCUC A UCUGUUAC	4151	GTAACAGA GGCTAGCTACAACGA GAGATGCT	5437
3329 CUGUUCCAA G UUCCAAG 4154 CTTGGAAG GGCTAGCTACAACGA TGTAACAG 5440 3337 GCUUCCAA G UGGCUAAG 4155 CTTAGCCA GGCTAGCTACAACGA TTGGAAGC 5441 3340 UCCAAGUG G CUAAGGGC 4156 GCCCTTAG GGCTAGCTACAACGA CACTTGGA 5442 3347 GGCUAAGG C AUGAGGC 4157 ACTCCATG GGCTAGCTACAACGA CACTTGGA 5443 3349 GGCAAGGG A UGGAGUC 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAG 5444 3354 GGCAGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAG 5444 3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCATAGC 5445 3361 AGUUCUUG G CAUCGGAA 4161 TTTCGCGA GGCTAGCTACAACGA CAAGAAC 5446 3363 UUCUUGGC A UCGCGAA 4161 TTTCGCGA GGCTAGCTACAACGA CAAGAAC 5447 3366 UUGCACA 4164 TGTGGATAC GGCTAGCTACAACGA CAAGAAC 5449 3374 GCGAAAG U GUAUCCA 4164 TGTGGATAC GGCTAGCTACAACGA CATTCGCC 5450 3376 GAAAGUGU A UCCACAGG 4166 GGTCACCTACAACGA ACTTTCG 5450 3376 GAAAGUGU A UCCACAGG 4166 GGTCACCTACAACGA ACTTTCG 5450 3386 GUGUAUCCA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTC 5451 3386 GUGUAUCCA 4166 GGTCCCTG GGCTAGCTACAACGA ACTTTC 5451 3391 GGGACCUG G CGGCACGA 4166 GGTCCCTG GGCTAGCTACAACGA ACTTTC 5451 3394 ACCUGGCG G CACGAAU 4169 ATTTCGG GGCTAGCTACAACGA CCCTGTGG 5452 3394 ACCUGGCG G CACGAAU 4169 ATTTCGT GGCTAGCTACAACGA CCCTGTGG 5453 3394 ACCUGGCG G CACGAAU 4169 ATTTCGT GGCTAGCTACAACGA CGCCAGGT 5455 3394 ACCUGGCG G CACGAAU 4169 ATTTCTG GGCTAGCTACAACGA CGCCAGGT 5455 3403 ACCUGGCG G CACGAAU 4171 AGAGGAT GGCTAGCTACAACGA CGCCAGGT 5456 3451 ACCUGUCU A UCCGCAGG GCTAGCTACAACGA CGCCAGGT 5456 3451 ACCUGGCG G CACGAAUAU 4174 ATATCTCG GGCTAGCTACAACGA CGCCAGGT 5456 3451 ACCUGUCU A UCGGAGA 4177 ATATTTCG GGCTAGCTACAACGA CGCCAGGT 5456 3451 ACCUGUCU A UCGGAGA 4177 ATATTTCG GGCTAGCTACAACGA CACGATCT 5460 3441 AUCCUCU A UCGGAGA 4177 ATATTTCG GGCTAGCTACAACGA CACGATCT 5461 3473 UAAAAUCU G UCACUU 4174 ATATCTAG GGCTAGCTACAACGA CACGATCT 5461 3473 UAAAA	3323	UCUCAUCU G UUACAGCU	4152	AGCTGTAA GGCTAGCTACAACGA AGATGAGA	5438
3337 GUUCCAA G UGGCUAAG 4155 CTTAGCCA GGCTAGCTACAACGA CACTTGGA 5442 3347 GGCUAAGG G CAUAGGGC 4156 GCCCTTAG GGCTAGCTACAACGA CACTTGGA 5442 3347 GGCUAAGG C AUGAGGGC 4157 ACTCCATG GGCTAGCTACAACGA CCTTAGCC 5443 3349 CUAAGGG C AUGAGGGU 4158 GAACTCCA GGCTAGCTACAACGA CCCTTAGCC 5445 3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAGCC 5445 3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CCCATGCC 5445 3361 AUUCUUGG C AUCGGGAA 4161 TTTGGCGA GGCTAGCTACAACGA CAAGAACT 5446 3366 UUGUUGG C AUCGGGAA 4161 TTTGGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3366 UUGUUGG C AUCGGGAA 4162 CACTTTCG GGCTAGCTACAACGA GCCAAGAA 5447 3374 GCGAAAGU G UUAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCGC 5449 3376 GAAAGUU A UCCACCA 4164 TGTGGATA GGCTAGCTACAACGA ACACTTTC 5451 3386 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTTC 5451 3386 CCACAGGG A CCUGGGGG 4167 CCGCCAGG GGCTAGCTACAACGA ACACTTTC 5451 3394 ACCUGGCG G CACGAAU 4169 ATTTCGTG GGCTAGCTACAACGA CAGGTACC 5454 3394 ACCUGGCG G CACGAAU 4169 ATTTCGTG GGCTAGCTACAACGA CAGGTACC 5454 3394 ACCUGGCG G CACGAAU 4170 ATATTTCG GGCTAGCTACAACGA CAGGTACC 5454 3394 ACCUGGCG G CACGAAU 4170 ATATTTCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGCG G CACGAAU 4171 ATACTTCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGCG G CACGAAU 4172 TAAGAGGA GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGU A UUCUCU 4171 ATACTTCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGCG G CACGAAU 4174 ATATTTCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGU A UUCUCU 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGT 5465 3493 AUGUCUCU AUGAGAA 4173 TTCTCGA GGCTAGCTACAACGA ATTTCTC 5467 3403 CACGAAAU A UCCUCUU 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCTC 5467 3403 CACGAAAU A UCCUCU 4174 TAACCACG GGCTAGCTACAACGA ATTTCTC 5466 3451 UUGUCUUG G UUGAGAA 4175 GTCACAA GGCTAGCTACAACGA CAGGTTC 5467 3433 UGGUUAAA 4175	3326	CAUCUGUU A CAGCUUCC	4153	GGAAGCTG GGCTAGCTACAACGA AACAGATG	5439
3340 UCCAAGUG G CUAAGGGC 4156 GCCCTTAG GGCTAGCTACAACGA CACTTGGA 5442 3347 GGCUAAGG G CAUGGAGUU 4158 ACTCCATG GGCTAGCTACAACGA CCTTAGGC 5443 3349 CUAAGGGC A UGGAGUUC 4159 GCCAAGAA GGCTAGCTACAACGA CCCTTAG C 5445 3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA CACCTTAG C 5445 3361 AGUUCUUG G CAUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA CAAGAACT 5446 3363 UUCUUGGC A UCGCGAAA 4161 TTTCGCGA GGCTAGCTACAACGA CAAGAACT 5446 3372 UCGCGAACA G CAAGAAA 4161 TTTCGCGA GGCTAGCTACAACGA CAAGAACT 5448 3372 UCGCGAACA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA CATCCCAA 5448 3372 UCGCGAACA G UGUAUCCA 4164 TGTGGATA GGCTAGCTACAACGA CATCTCCG 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCG 5450 3376 GAAAGUGU A UCCACAGG 4166 GGTCCTG GGCTAGCTACAACGA ACACTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCTG GGCTAGCTACAACGA ACACTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCTG GGCTAGCTACAACGA ACACTTC 5452 3381 GGGACCUG G CAGCACAA 4166 GGTCCTG GGCTAGCTACAACGA CACTTCC 5452 3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CACGTCCC 5454 3394 ACCUGGCG G CACGAAAU 4164 ATTTCGTG GGCTAGCTACAACGA CACGTCCC 5454 3394 ACCUGGCG G CACGAAAU 4160 ATTTCGTG GGCTAGCTACAACGA CACGTCCC 5455 3396 CUGGCGGC A CAGAAAU 4170 ATATTTCG GGCTAGCTACAACGA CACGCAGGT 5455 3401 GGCACGAA A UAUCCUU 4171 AGAGGAT GGCTAGCTACAACGA CACGCAGGT 5456 3401 GGCACGAA A UAUCCUU 4172 TAACAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4175 TTTAACCA GGCTAGCTACAACGA ATTTCGTG 5459 3422 GGACAGAA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5459 3422 GGACAGAA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCCTC 5460 3424 AGAAGAAA A CGUGGUUA 4175 TTTAACCA GGCTAGCTACAACGA ACGTTTC 5461 3427 AGAAGAGA A CGUGGCC 4180 GGCCAGGA GGCTAGCTACAACGA CACGTTC 5463 3431 UGUUAAA A UCUUGUA 4175 GTCACGA GGCTAGCTACAACGA CACGTTTC 5463 344	3329	CUGUUACA G CUUCCAAG	4154	CTTGGAAG GGCTAGCTACAACGA TGTAACAG	5440
3347 GGCUAAGG G CAUGGAGU 4157 ACTCCATG GGCTAGCTACAACGA CCTTAGC 5443 3349 CUAAGGGC A UGGAGGUC 4158 GAACTCCA GGCTAGCTACAACGA CCCCTTAG 5444 3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA TCCATGCC 5445 3361 AGUUCUUG G CAUCGGAA 4160 TCGCGATG GGCTAGCTACAACGA CAAGAACT 5446 3363 UUCUUGGC A UCGCGAA 4161 TTTCGCGA GGCTAGCTACAACGA CAAGAACT 5446 3363 UUCUUGGC A UCGCGAA 4161 TTTCGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3376 UUGGCAAG G UGAUCCA 4163 TGGATACA GGCTAGCTACAACGA TTTCGCGA 5449 3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA TTTCGCG 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA TCTTCGC 5451 3386 GUGUAUCCA CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTC 5451 3386 CCCACAGGG A 6165 GGTCCCTG GGCTAGCTACAACGA CACTTTC 5451 3391 GGGACCUG G CACGAAAU 4169 TCTTCGCG GGCTAGCTACAACGA CACTTGG 5453 3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CACGTTGG 5453 3396 CUGGCGG G CACGAAAU 4170 ATATTTCG GGCTAGCTACAACGA CGCCACAG 5456 3396 CUGGCGGC A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA CGCCCCAG 5456 3422 GAGAAGAU A UCCUCUU 4171 AGAGGATA GGCTAGCTACAACGA ATTTCGTG 5459 3422 GAGAAGA A UAUCCUCU 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5459 3422 GAGAAGA A CUGUGUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5460 3424 AGAAGAAC G UGUUAAA 4175 TTTCCCGA GGCTAGCTACAACGA ATTTCTCT 5461 3427 AGAACGUC G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTT 5461 3427 AGAACGUC G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTT 5461 3427 AGAACGUC G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTT 5461 3427 AGAACGUC G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTT 5461 3427 AGAACGUC G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUUGUG 4179 AGACGAG GGCTAGCTACAACGA CACGTTCT 5463 3464 UGACUUU G CCCGGGAU 4180 GGGCAAG GGCTAGCTACAACGA CACGATTT 5463 3464 UGACUUU G CCCGGGAU	3337	GCUUCCAA G UGGCUAAG	4155	CTTAGCCA GGCTAGCTACAACGA TTGGAAGC	5441
3349 CUAAGGGC A UGGAGUUC 4158 GAACTCCA GGCTAGCTACAACGA GCCCTTAG 5444 3354 GGCAUGGA G UUCUUUGC 4159 GCCAAGAA GGCTAGCTACAACGA TCCATGCC 5445 3361 AGUUCUUG C AUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA TCCATGCC 5445 3363 UUCUUGGC A UCGCGAA 4161 TTTGGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3366 UUGUGGC A UCGCGAA 4161 TTTGGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3372 UCGCGCAAA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA ATTTCGC 5450 3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCG 5451 3376 GAAAGUGU A UCCACACA 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCTG GGCTAGCTACAACGA ACTTTC 5451 3381 GUGUAUCC A CAGGGACC 4166 GGTCCTG GGCTAGCTACAACGA CACTTTC 5451 3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CAGGTCCC 5454 3394 ACCUGGCG G CAGGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CAGGTCCC 5454 3403 CAGGAAAU A UCCUCUU 4171 AGAGGATA GGCTAGCTACAACGA CAGGTCCC 5457 3403 CACGAAAU A UCCUCUU 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5457 3411 AUCCUCUU A UCGGAGAA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CUUGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CUUGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCTCC 5460 3424 AGAAGAAC G UGGUUA 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTCC 5461 3427 AGAACGUG G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTCC 5461 3428 AGAAGAAC G UGGUUA 4178 CAAAGTCA GGCTAGCTACAACGA ATTTCTCC 5462 3430 UGGUUAAA A UCCUUU 4178 CAAAGTCA GGCTAGCTACAACGA ATTTTCTC 5461 3427 AGAACGUG G UUAAAAU 4176 GATTTTAA GGCTAGCTACAACGA ATTTTCTC 5461 3428 AGAAGAAC G UGGUUA 4178 CAAAGTCA GGCTAGCTACAACGA ACAGTTCT 5462 3431 UGGUUAAA A UUGUGCCC 4180 GGCCAAG GGCTAGCTACAACGA CACGTTTC 5463 3446 UGACUUUG A CUUGGCCC 4180 GGCCAAG GGCTAGCTACAACGA CACAGTT 5463 3456 GCCCCGGGAU A UUUUAUA 4181 ATCCCGGG GG	3340	UCCAAGUG G CUAAGGGC	4156	GCCCTTAG GGCTAGCTACAACGA CACTTGGA	5442
3354 GGCAUGGA G UUCUUGGC 4159 GCCAAGAA GGCTAGCTACAACGA TCCATGCC 5445 3361 AGUUCUUG G CAUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA CAAGAACT 5446 3363 UUCUUGGC A UCGCGAAA 4161 TTTCGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3366 UUGGCCAUC G CGAAAAGUG 4162 CACTTTCG GGCTAGCTACAACGA GATGCCAA 5448 3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA ATTTCGCG 5449 3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCGC 5449 3376 GGAAAGUG U AUCCACAG 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCGC 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACACTTTC 5451 3380 GUGUAUCC A CAGGGGAC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTTC 5451 3391 GGGACCU G CGGCACGA 4167 CCGCCAGG GGCTAGCTACAACGA CCCTGTGG 5453 3394 ACCUGGCG G CACGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA CACGTCC 5454 3395 CUGGCGGC A CCGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA CACGCACGC 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTACAACGA CCCCCCAG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTACAACGA CTCGCCCAG 5456 3411 AUCCUCUU A 4172 TAACACGA GGCTACGTACAACGA ATTTCGTG 5459 3411 AUCCUCUU A 4172 TAACACAG GGCTAGCTACAACGA ATTTCGTG 5459 3411 AUCCUCUU A 4174 TAACACAG GGCTAGCTACAACGA ATTTCCTC 5461 3422 GGAAAGAA A CUUGGUAA 4175 TTTTACCA GGCTAGCTACAACGA ATTTCCTC 5461 3424 AGAAGAAC G UGGUUAA 4175 TTTTACCA GGCTAGCTACAACGA ATTTCTTC 5461 3424 AGAAGAAC G UGGUUAA 4176 GATTTTTAA GGCTAGCTACAACGA ACAGTTTC 5461 3427 AGAACGUG G UUAAAAAU 4176 GATTTTTAA GGCTAGCTACAACGA CACGTTCT 5461 3427 AGAACGUG G UUAAAAAU 4176 GATTTTTAA GGCTAGCTACAACGA CACGTTCT 5461 3427 AGAACGUG G UUAAAAAU 4176 GATTTTAA GGCTAGCTACAACGA CACGTTC 5463 3430 UGAAAUAU 4178 CAAAGTCA GGCTAGCTACAACGA CACGTTC 5463 3446 UGACUUG A CUUGGCCC 4180 GGCCAGG GGCTAGCTACAACGA CACGGTTC 5466 3466 GATUAUUAUAA 4182 TTTTTAAA GGCTAGCTACAACGA CACGGTTC 5466 3466 GATUAUUAUAA 4181 ATCCCGGG GGC	3347	GGCUAAGG G CAUGGAGU	4157	ACTCCATG GGCTAGCTACAACGA CCTTAGCC	5443
3361 AGUUCUUG G CAUCGCGA 4160 TCGCGATG GGCTAGCTACAACGA CAAGAACT 5446 3363 UUCUUGGC A UCGCGAAA 4161 TTTCGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3366 UUGGCGAAG G UGGCGAAA 4162 CACTTTCG GGCTAGCTACAACGA GTCCCAA 5449 3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA TTTCGCGA 5449 3374 GCGAAAGU A UCCACACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCG 5450 3376 GAAAGUGU A UCCACACA 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCG 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA CCCTTGG 5452 3391 GGGACCU G G CGCACACA 4168 TCCTGCCG GGCTAGCTACAACGA CCCTTGG 5453 3394 ACCUGGCG G CACGAAAU 4169 ATTTCTG GGCTAGCTACAACGA CAGGTCCC 5454 3394 ACCUGGCG G CACGAAAU 4169 ATTTCTG GGCTAGCTACAACGA CAGGTCCC 5454 3394 ACCUGGCG G CACGAAAU 4170 ATATTTCG GGCTAGCTACAACGA CAGGTCCC 5454 3394 ACCUGGCG G CAGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA TCCGTCCC 5456 3403 CACGAAAU UCCUCUU 4171 AGAGGATA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5458 3424 AGAAGAAC G UGGUUAA 4174 TAACCACG GGCTAGCTACAACGA ATTTCTCC 5460 3424 AGAAGAAC G UGGUUAA 4175 TTTACCC GGCTAGCTACAACGA ATTTCTCC 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA GTTCTTCC 5462 3433 UGGUUAAA A UCUUUGC 4179 AGCCAAG GGCTAGCTACAACGA ACCGTTCT 5462 3431 UAUCUUU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA ACCGTTCT 5462 3433 UGGUUAAA A UCUUUGC 4179 AGCCAAG GGCTAGCTACAACGA ACCGTTCT 5463 3437 UAAAAUC G UUAGCCC 4180 GGGCCAG GGCTAGCTACAACGA ACCGTTCT 5463 3437 UAAAAUC G UUAGCCC 4180 GGGCCAG GGCTAGCTACAACGA ACACGTTC 5463 3456 GACGCAGA AUUAUUAAA 4181 ATCCCGG GGCTAGCTACAACGA ACACGTTC 5470 3476 GAGUCCAG AUUAUUAAA 4181 ATCCCGG GGCTAGCTACAACGA A	3349	CUAAGGGC A UGGAGUUC	4158	GAACTCCA GGCTAGCTACAACGA GCCCTTAG	5444
3363 UUCUUGGC A UCGCGAAA 4161 TTTCGCGA GGCTAGCTACAACGA GCCAAGAA 5447 3366 UUGGCAUC G CGAAAGUG 4162 CACTTTCG GGCTAGCTACAACGA CATCCCAA 5448 3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA ACTTTCGCGA 5449 3374 GCGAAAGUG U AUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCGC 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCGC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA GGATACAC 5452 3386 CCACAGGG A CUUGGCGG 4167 CCGCCAGG GGCTAGCTACAACGA CACGTTCC 5454 3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CGCCAGGT 5453 3394 ACCUUGGCG G CACGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA CGCCACGG 5455 3396 CUGGCGGC A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA CCCCCACG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA TTCGTGC 5454 3401 GGCACGAA A UAUCCUCU 4172 TAAGAAGA GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUA 4172 TAAGACAG GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUA 4173 TTCTCCGA GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCTCC 5460 3424 AGAAGACG G UUUAAAA 4175 TTTAACCA GGCTAGCTACAACGA ATTTCTCC 5461 3427 AGAACGUG G UUAAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA AGAGGAT 5463 3431 UGGUUAAA A UCUGUGA 4177 GTCACAGA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAGA GGCTAGCTACAACGA CACGATTT 5462 3431 UGGUUAA A UUUUAUAA 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAGA GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CCUGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CCUGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CCUGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGCTA 5467 3466 GAUUUUU A UAAAGAUC 4186 GATCTTTA GGCTAGCTACAACGA CTTGTATA	3354	GGCAUGGA G UUCUUGGC	4159	GCCAAGAA GGCTAGCTACAACGA TCCATGCC	5445
3366 UUGGCAUC G CGAAAGUG 4162 CACTTTCG GGCTACAACAA GATGCCAA 5448 3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTACAACGA TTTCGCGA 5449 3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCGC 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACACTTTC 5451 3380 GUGUAUCCA CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTCC 5452 3386 CCACAGGG A CCUGGCGG 4167 CCGCCAGG GGCTAGCTACAACGA CCCTGTGG 5453 3391 GGGACCUG G CGGCACCA 4168 TCGTGCG GGCTAGCTACAACGA CCCTGTGG 5453 3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CCCGCCAG 5454 3394 ACCUGGCG G CACGAAAU 4170 ATATTTCG GGCTAGCTACAACGA CCCGCCAG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA TCCGTGC 5457 3403 CACGAAAU A UCCUCUU 4172 TAACAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCCGAGAA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5458 3424 AGAAGAAC G UGGUUAA 4174 TAACCACG GGCTAGCTACAACGA ATTTCTCC 5460 3424 AGAAGAAC G UGGUUAA 4175 TTTTACCA GGCTAGCTACAACGA TCTTCTC 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA ATTTCTCC 5462 3433 UGGUUAAA UCUUUGAC 4177 GTCACAAG GGCTAGCTACAACGA ATTTCTCC 5462 3433 UGGUUAAA UCUUUGAC 4177 GTCACAAG GGCTAGCTACAACGA AGTTCTTC 5462 3434 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGTTCTTC 5463 3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGTTCTTC 5464 3440 AAUCUUG G CUUGGCC 4180 GGCCAAG GGCTAGCTACAACGA AGTTCTTC 5465 3451 UUGGCUUG G CUUGGCC 4180 GGCCAAG GGCTAGCTACAACGA AGACGTA 5465 3451 UUGGCUUG G CUUGGCC 4180 GGCCAAG GGCTAGCTACAACGA AGACGTA 5466 3451 UUGGCUUG G CUUGGCC 4180 GGCCAAG GGCTAGCTACAACGA ATTTCTC 5470 3470 UUAUAAAA 4181 ATCCGGG GGCTAGCTACAACGA ATCTCCGG 5469 3466 GCAGAUUU A UAAAGAUC 4186 GATCTTTA GGCTAGCTACAACGA ATCTCCTT	3361	AGUUCUUG G CAUCGCGA	4160	TCGCGATG GGCTAGCTACAACGA CAAGAACT	5446
3372 UCGCGAAA G UGUAUCCA 4163 TGGATACA GGCTAGCTACAACGA TTTCGCCA 5449 3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCG 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACTTTCC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA ACACTTTC 5451 3386 CCACAGGG A CCUGGCGG 4167 CCGCCAGG GGCTAGCTACAACGA GGATACAC 5452 3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CACGTCC 5454 3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CACGGTCC 5454 3394 ACCUGGCG G CACGAAAU 4170 ATATTTCG GGCTAGCTACAACGA CGCCAGG 5455 3396 CUGGCGGC A CACAAAUA 4170 ATATTTCG GGCTAGCTACAACGA CGCCACGA 5456 3401 GGCACCAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA TTCGTGCC 5457 3403 CACGAAAU A UCCUCUU 4172 TAACAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5458 3424 AGAAGAAC G UGGUUAA 4175 TTTTAACCA GGCTAGCTACAACGA ATTTCTTCC 5460 3424 AGAAGGAAC G UGGUUAA 4175 TTTTAACCA GGCTAGCTACAACGA GTTCTTCTC 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA U UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUGGCC 4180 GGCCCAGG GGCTAGCTACAACGA CACGATTT 5464 3440 AAUCUGUG A CUUGGCC 4180 GGCCCAGG GGCTAGCTACAACGA CACGATTT 5465 3446 UGACUUUG G CCCGGGAU 4181 ATCCCGG GGCTAGCTACAACGA CACGATT 5465 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGG GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGG GGCTAGCTACAACGA CACAGATT 5466 3451 UUGGCUUG G CCCGGGAU 4184 GATCTTTA GGCTAGCTACAACGA CACAGCCAA 5467 3470 UUAUAAAA 4183 TTTATAAA GGCTAGCTACAACGA CACAGCCAA 5467 3470 UUAUAAAA 4185 TTTCTGGA GGCTAGCTACAACGA ATATCCC 5470 3470 UUAUAAAA 4186 TACCTGGA GGCTAGCTACAACGA ATATCCC 5470 3470 UUAUAAAA 4188 TTTCTG	3363	UUCUUGGC A UCGCGAAA	4161	TTTCGCGA GGCTAGCTACAACGA GCCAAGAA	5447
3374 GCGAAAGU G UAUCCACA 4164 TGTGGATA GGCTAGCTACAACGA ACTTTCC 5450 3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACACTTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA GGATACAC 5452 3386 CCACAGGG A CCUGGCGG 4167 CCGCCAGG GGCTAGCTACAACGA CACTTTGG 5453 3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGCG G CACGAAAU 4169 ATTTCCTG GGCTAGCTACAACGA CAGGTCC 5454 3396 CUGGCGG CACGAAAU 4170 ATATTTCTG GGCTAGCTACAACGA CGCCAGCT 5455 3401 GGCACGAA AUAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA GCCGCCAG 5456 3401 GGCACGAA AUAUCCUCU 4172 TAAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5457 3403 CACGAAAU AUCCUCUU 4172 TAAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU AUCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGAA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCGTG 5460 3424 AGAAGAAC GUGGUUAAA 4175 TTTTACCA GGCTAGCTACAACGA ATTTCTTC 5461 3427 AGAACGUG GUUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CTCTTCTT 5461 3433 UGGUUAAA AUCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A UUUUGGAC 4177 GTCACAGA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A UUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A UUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA AGATTTTA 5466 3451 UUGGCUUG G CUCGGGAU 4180 GGGCCAAG GGCTAGCTACAACGA AGATTTTA 5466 3451 UUGGCUUG G CUCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA ACAAGTTC 5466 3458 GGCCCGGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CACGGCCA 5467 3458 GGCCCGGG A UAUUUAUAA 4183 TTTATAAA GGCTAGCTACAACGA ACAAGTTC 5470 3470 UUAUAAAGA UUAUAAAA 4183 TTTATAAA GGCTAGCTACAACGA ACACGCAA 5467 3470 UUAUAAAGA UUAUAAAA 4184 TTCTGGAC GGCTAGCTACAACGA AAAATTCC 5470 3470 UUAUAAAAA UUCAGAAA 4186 TTTCTGAC GG	3366	UUGGCAUC G CGAAAGUG	4162	CACTTTCG GGCTAGCTACAACGA GATGCCAA	5448
3376 GAAAGUGU A UCCACAGG 4165 CCTGTGGA GGCTAGCTACAACGA ACACTTTC 5451 3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA GGATACAC 5452 3381 GCACAGGG A CCUGGCGG 4167 CCGCCAGG GGCTAGCTACAACGA CCCTGTGG 5453 3391 GGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CGCCAGGT 5455 3396 CUGGCGC A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA GCCGCCAG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTACCAACGA TTCGTGC 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCCA GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTTCCTC 5460 3424 AGAAGAAC G UGGUUAAA 4175 TTTTAACCA GGCTAGCTACAACGA ATTTCTCC 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUAAA A UCUUUGCA 4177 GTCACAGA GGCTAGCTACAACGA CACGTTCT 5462 3434 UAAAAUC G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA CACGTTCT 5463 3446 AAUCUGUG A CUUUGCC 4179 AGCCAAAG GGCTAGCTACAACGA CAAAGTTT 5464 3446 GACUUUG G CUUGGCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5465 3451 UUGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGCUUG G CUUGGCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CAAAGTCA 5467 3458 GGCCCGGG A UAUUAUAA 4183 TTTATAAA GGCTAGCTACAACGA CAAAGTCA 5467 3459 UCCAGAUU A UAAAGAUC 4186 GATCTTTA GGCTAGCTACAACGA CAAAGTCA 5467 3460 CCCGGGAU A UUUAUAA 4183 TTTATAAA GGCTAGCTACAACGA CAAAGTCA 5467 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CAAAGTCA 5467 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CAAAGTCA 5470 3470 UUAUAAAG A UCCAGAUA 4186 GATCTTTA GGCTAGCTACAACGA CTTCTATAA 5471 3474 UAAAGAUC G CUCCCCC 4180	3372	UCGCGAAA G UGUAUCCA	4163	TGGATACA GGCTAGCTACAACGA TTTCGCGA	5449
3380 GUGUAUCC A CAGGGACC 4166 GGTCCCTG GGCTAGCTACAACGA GGATACAC 5452 3386 CCACAGGG A CCUGGCG 4167 CCGCCAGG GGCTAGCTACAACGA CCCTGTGG 5453 3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CAGGTCCC 5454 3394 ACCUGGCG C CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CAGGTCCC 5454 3396 CUGGCGG C A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA CCGCCAG 5455 3396 CUGGCGG C A CGAAAUAU 4171 AGAGGATA GGCTAGCTACAACGA TCGCCCAG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA TTCGTGC 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTCCTCC 5460 3424 AGAAGAAC G UGGUUAA 4175 TTTTAACCA GGCTAGCTACAACGA CTCTTCTC 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA CACGTTCT 5463 3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA CACGAATT 5465 3446 UGACUUUG G CUUGGCC 4180 GGCCAAG GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CUUGGCC 4180 GGGCCAAG GGCTAGCTACAACGA CACAGATT 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGATC 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGATC 5466 3452 UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA CACGCCA 5467 3458 GGCCCGGG A UAUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA CACGGCC 5468 3464 GGAUAUUU A UAAAGAUC 4186 TATAAATA GGCTAGCTACAACGA CACGACA 5477 3470 UUAUAAAG A UCCAGAAU 4185 AATCTGGA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAAU 4185 AATCTGGA GGCTAGCTACAACGA AAATATCC 5470 3474 UUAUAAAG A UCCAGAAU 4185 AATCTGGA GGCTAGCTACAACGA AAATATCC 5470 3474 UUAUAAAG A UCCAGAAU 4185 AATCTGGA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUUU A UAAAGAUC 4186 TGACATAA GGCTAGCTACAACGA ATCCTTT 5475 3496 AAGAGAGA A UGCCCCC 4189 GGCGAGC GGCTAGCTACAACGA ATCCTTT 5475 3496 AAGAGAGA A UGCCCCC 4199 GGGGGGAGGTAGCTACAACGA ATCCTTT 5475 350	3374	GCGAAAGU G UAUCCACA	4164	TGTGGATA GGCTAGCTACAACGA ACTTTCGC	5450
3386 CCACAGGG A CCUGGCG 4167 CCGCCAG GCTAGCTACAACGA CCCTGTG 5453 3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CAGGTCC 5454 3394 ACCUGGCG G CACGAAU 4169 ATTTCGTG GGCTAGCTACAACGA CGCCAGGT 5455 3396 CUGGCGGC A CGAAAUA 4170 ATATTTCG GGCTAGCTACAACGA CGCCAGGT 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA TCTGTGCC 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA ATTTCGTG 5459 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA ATTCTCTC 5460 3424 AGAAGGAA CGUGGUUA 4175 TTTAACCA GGCTAGCTACAACGA ATTCTCTC 5461 3427 AGAACGU G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5461 3427 AGAACGU G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5463 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA CACGTTCT 5463 3440 AAUCUGU G UGACUUUG 4179 AGCCAAAG GGCTAGCTACAACGA CACGATTTA 5464 3440 AAUCUGU G CUUGGCC 4180 GGGCCAAG GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGATT 5465 3458 GGCCGGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CACAGATT 5466 3458 GGCCGGG A UAUUUAUAA 4181 ATCCCGGG GGCTAGCTACAACGA CACAGAT 5467 3458 GGCCGGG A UAUUAUAAA 4181 ATCCCGGG GGCTAGCTACAACGA CACAGAT 5467 3464 GGAUUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA CACAGAT 5467 3479 UCAGAGUU A UAAAGAUC 4185 TATTAAAATA GGCTAGCTACAACGA CACAGAT 5470 3470 UUAUAAAA 4183 TTTATAAA GGCTAGCTACAACGA CACAGACA 5477 3479 UCCAGAUU A UAAAGAUC 4186 TGACATAA GGCTAGCTACAACGA CTCCGGG 5469 3464 GAUUUU A UAAAGAUC 4185 TATTCTGA GGCTAGCTACAACGA CTCCTTT 5475 3479 UCCAGAUU A UGCAGAAA 4187 TTCTGGA GGCTAGCTACAACGA CTCCTTT 5475 3496 AAGAGAGA A UGCUCGC 4190 GAGGGGA GGCTAGCTACAACGA ATCTCTT 5475 3496 AAGAGAGA A UGCUCGCC 4190 GAGGGGA GGCTAGCTACAACGA CTCCTTT 5475 3496 AAGAGAGA A UGCUCGC	3376	GAAAGUGU A UCCACAGG	4165	CCTGTGGA GGCTAGCTACAACGA ACACTTTC	5451
3391 GGGACCUG G CGGCACGA 4168 TCGTGCCG GGCTAGCTACAACGA CAGGTCCC 5454 3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CGCCAGGT 5455 3396 CUGGCGGC A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA GCCGCCAG 5456 3401 GGCACGAA A UAUCCUCUU 4171 AGAGGATA GGCTAGCTACAACGA TTCGTGCC 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4174 TAACCACG GGCTAGCTACAACGA AAGAGGAT 5459 3422 GGAGAAGA CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA AGAGGAT 5459 3424 AGAAGAAC G UGGUUAAA 4175 TTTTACCA GGCTAGCTACAACGA TCTTCTCC 5460 3424 AGAAGAAC G UGGUUAAA 4175 TTTTACCA GGCTAGCTACAACGA GTTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA UCGUGGAC 4177 GTCACAGA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAC GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAAGTCA 5467 3458 GGCCCAGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CAAAGTCA 5467 3458 GGCCCAGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CACGCGGC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA AACTACCGGG 5468 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AACTACCGGG 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA AATCTCG 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA AATCTCG 5472 3479 UCCAGAUU A UGCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTCG 5473 3481 CAGAUUAU GUCAGAAA 4188 TTTTCTGACA GGCTAGCTACAACGA AATCTCGG 5473 3494 AAAAGGAG GUCAGCAC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCTT 5476 3494 AAAAGGAG GCCACCCUU 4191 AAGGGAG GGCTAGCTACAACGA ATCT	3380	GUGUAUCC A CAGGGACC	4166	GGTCCCTG GGCTAGCTACAACGA GGATACAC	5452
3394 ACCUGGCG G CACGAAAU 4169 ATTTCGTG GGCTAGCTACAACGA CGCCAGGT 5455 3396 CUGGCGC A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA GCCGCCAG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA AAGAGGAT 5459 3422 GGAGAAGA A UCGGUUAA 4174 TAACCACG GGCTAGCTACAACGA ATCTTCTC 5460 3424 AGAACGUG G UGAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA ATTTTACCA 5461 3433 UGGUUAAA 4176 GATTTTAA GGCTAGCTACAACGA ATTTACCA 5463 3437 UAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG G UGACUUUG 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3451 UUGGCCC 4180	3386	CCACAGGG A CCUGGCGG	4167	CCGCCAGG GGCTAGCTACAACGA CCCTGTGG	5453
3396 CUGGCGGC A CGAAAUAU 4170 ATATTTCG GGCTAGCTACAACGA GCCGCCAG 5456 3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTAGCTACAACGA TTCGTGCC 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA ATTTCGTG 5458 3422 GGAGAAGA A CGUGGUUAA 4174 TAACCACG GGCTAGCTACAACGA AAGAGGAT 5459 3422 GAGAAGAC G UUGAAAAUC 4175 TTTAACCA GGCTAGCTACAACGA GTCTTCTC 5460 3424 AGAAGAAC G UUGAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA CACGTTCT 5462 3434 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5467 3458 GGCCCGGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CAAAGCCAA 5467 3458 GGCCCGGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CACGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA AACCCGG 5469 3464 GGAUAUUU A UAAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA CCCGGGCC 5469 3464 GGAUCCAG A UUAUGUCA 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4187 TTCTGGA GGCTAGCTACAACGA ATCTCGGA 5473 3481 CAGAUUAU G UCAGAAA 4188 TTCTCGA GGCTAGCTACAACGA ATCTCGGA 5473 3494 AAAAGGAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA ATCTCTT 5475 3496 AAGGAGAU G CUCGCCCU 4190 GAGGCGA GGCTAGCTACAACGA ATCTCTT 5475 3496 AAGGAGAU G CUCGCCCU 4190 GAGGCGA GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA CTTCTTT 5476 3500 AGAGCUC G CCCCCGU 4190 GAGGCGA GGCTAGCTACAACGA CTTCCTT 5476	3391	GGGACCUG G CGGCACGA	4168	TCGTGCCG GGCTAGCTACAACGA CAGGTCCC	5454
3401 GGCACGAA A UAUCCUCU 4171 AGAGGATA GGCTACTACAACGA TTCGTGCC 5457 3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTAGCTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTACTACAACGA AAGAGGAT 5459 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA TCTTCTC 5460 3424 AGAAGAC G UGGUUAAA 4175 TTTAACCA GGCTAGCTACAACGA GTTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACGAG GGCTAGCTACAACGA CACGATTTA 5464 3440 AAUCUGU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAGCCAA 5467 3458 GGCCCGGG A UAUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTACAACGA ATCCCGGG 5469 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTACCAACGA ATCCCGGG 5469 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTAAA 5471	3394	ACCUGGCG G CACGAAAU	4169	ATTTCGTG GGCTAGCTACAACGA CGCCAGGT	5455
3403 CACGAAAU A UCCUCUUA 4172 TAAGAGGA GGCTACTACAACGA ATTTCGTG 5458 3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA AAGAGGAT 5459 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA TCTTCTC 5460 3424 AGAAGAAC G UGGUUAAA 4175 TTTAACCA GGCTACAACGA GTTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTACCAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA CACGATTTA 5463 3437 UAAAAUCU G UGACUUG 4178 CAAAGTCA GGCTAGCTACAACGA CACAGATT 5465 3440 AAUCUGU G CUUGGCC 4180 GGGCCAAG GGCTAGCTACAACGA CACAGATCA 5465 34451 UUGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGCCAA 5467 3458 GGCCCGGG A UAUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTACAACGA ATCCCGGG 5469 3460 CCCGGGAU A UUAUAAAA 4183 TTTATAAA GGCTACAACGA ATCCCCGG 5470<	3396	CUGGCGGC A CGAAAUAU	4170	ATATTTCG GGCTAGCTACAACGA GCCGCCAG	5456
3411 AUCCUCUU A UCGGAGAA 4173 TTCTCCGA GGCTAGCTACAACGA AAGAGGAT 5459 3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA TCTTCTCC 5460 3424 AGAAGAAC G UGGUUAAA 4175 TTTAACCA GGCTAGCTACAACGA CTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGCUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGCCAA 5467 3458 GGCCCGGG A UAUUUUAA 4182 TATAAATA GGCTAGCTACAACGA ATCCCGGG 5469 3464 <td>3401</td> <td>GGCACGAA A UAUCCUCU</td> <td>4171</td> <td>AGAGGATA GGCTAGCTACAACGA TTCGTGCC</td> <td>5457</td>	3401	GGCACGAA A UAUCCUCU	4171	AGAGGATA GGCTAGCTACAACGA TTCGTGCC	5457
3422 GGAGAAGA A CGUGGUUA 4174 TAACCACG GGCTAGCTACAACGA TCTTCTCC 5460 3424 AGAAGAAC G UGGUUAAA 4175 TTTAACCA GGCTAGCTACAACGA GTTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA TTTAACCA 5463 3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAGCCAA 5467 3458 GGCCCGGG A UAUUUAUAA 4182 TATAAATA GGCTAGCTACAACGA CCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA CTTTATAA 5471 3470 UUAUAAAA A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA ATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGAC GGCTAGCTACAACGA ATCTGGA 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCGT 5476 3496 AAGGAGAU G CUCGCCU 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5476 3513 CCUUUGAA A UGGACCCA 4193 TGGGGCGA GGCTAGCTACAACGA CATCATTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCATTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3403	CACGAAAU A UCCUCUUA	4172	TAAGAGGA GGCTAGCTACAACGA ATTTCGTG	5458
3424 AGAAGAAC G UGGUUAAA 4175 TTTAACCA GGCTAGCTACAACGA GTTCTTCT 5461 3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA TTTAACCA 5463 3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CACAGATT 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGATCA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAA A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA ATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGACA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCTT 5475 3496 AAGGAGAU G CUCGCCU 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA TTCAAACG 5478 3511 UGAAAUGG A UGGCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CATCATTC 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCATTC 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3411	AUCCUCUU A UCGGAGAA	4173	TTCTCCGA GGCTAGCTACAACGA AAGAGGAT	5459
3427 AGAACGUG G UUAAAAUC 4176 GATTTTAA GGCTAGCTACAACGA CACGTTCT 5462 3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA TTTAACCA 5463 3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAGGCCA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA CCCGGGCC 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA ATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGAC GGCTAGCTACAACGA ATCTTGG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3422	GGAGAAGA A CGUGGUUA	4174	TAACCACG GGCTAGCTACAACGA TCTTCTCC	5460
3433 UGGUUAAA A UCUGUGAC 4177 GTCACAGA GGCTAGCTACAACGA TTTAACCA 5463 3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAGCCAA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTGTATTA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA ATCTCGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGACA GGCTAGCTACAACGA ATCTCGGA 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCC GGCTAGCTACAACGA ATCTCTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA CTCCTTT 5478 3517 UGAAAUGG A UGGCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CATCATTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3424	AGAAGAAC G UGGUUAAA	4175	TTTAACCA GGCTAGCTACAACGA GTTCTTCT	5461
3437 UAAAAUCU G UGACUUUG 4178 CAAAGTCA GGCTAGCTACAACGA AGATTTTA 5464 3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAAGTCA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATCTGGA 5473 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5477 3513 CCUUUGAA A UGGAUGCC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CATCTATCA 5479 3520 AAUGGAUG G CCCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3427	AGAACGUG G UUAAAAUC	4176	GATTTTAA GGCTAGCTACAACGA CACGTTCT	5462
3440 AAUCUGUG A CUUUGGCU 4179 AGCCAAAG GGCTAGCTACAACGA CACAGATT 5465 3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CACAGATCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CACAGCCAA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA CATCTCCT 5476 3517 UGAAAUGG A UGGCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3433	UGGUUAAA A UCUGUGAC	4177	GTCACAGA GGCTAGCTACAACGA TTTAACCA	5463
3446 UGACUUUG G CUUGGCCC 4180 GGGCCAAG GGCTAGCTACAACGA CAAAGTCA 5466 3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAGCCAA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA ATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3437	UAAAAUCU G UGACUUUG	4178	CAAAGTCA GGCTAGCTACAACGA AGATTTTA	5464
3451 UUGGCUUG G CCCGGGAU 4181 ATCCCGGG GGCTAGCTACAACGA CAAGCCAA 5467 3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTCCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3440	AAUCUGUG A CUUUGGCU	4179	AGCCAAAG GGCTAGCTACAACGA CACAGATT	5465
3458 GGCCCGGG A UAUUUAUA 4182 TATAAATA GGCTAGCTACAACGA CCCGGGCC 5468 3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA ATCTCCTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	ļ		4180	GGGCCAAG GGCTAGCTACAACGA CAAAGTCA	5466
3460 CCCGGGAU A UUUAUAAA 4183 TTTATAAA GGCTAGCTACAACGA ATCCCGGG 5469 3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3451	UUGGCUUG G CCCGGGAU	4181	ATCCCGGG GGCTAGCTACAACGA CAAGCCAA	5467
3464 GGAUAUUU A UAAAGAUC 4184 GATCTTTA GGCTAGCTACAACGA AAATATCC 5470 3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3458	GGCCCGGG A UAUUUAUA	4182	TATAAATA GGCTAGCTACAACGA CCCGGGCC	5468
3470 UUAUAAAG A UCCAGAUU 4185 AATCTGGA GGCTAGCTACAACGA CTTTATAA 5471 3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA ATCTCCTT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3460	CCCGGGAU A UUUAUAAA	4183	TTTATAAA GGCTAGCTACAACGA ATCCCGGG	5469
3476 AGAUCCAG A UUAUGUCA 4186 TGACATAA GGCTAGCTACAACGA CTGGATCT 5472 3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480			4184	GATCTTTA GGCTAGCTACAACGA AAATATCC	5470
3479 UCCAGAUU A UGUCAGAA 4187 TTCTGACA GGCTAGCTACAACGA AATCTGGA 5473 3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3470	UUAUAAAG A UCCAGAUU	4185	AATCTGGA GGCTAGCTACAACGA CTTTATAA	5471
3481 CAGAUUAU G UCAGAAAA 4188 TTTTCTGA GGCTAGCTACAACGA ATAATCTG 5474 3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3476	AGAUCCAG A UUAUGUCA	4186	TGACATAA GGCTAGCTACAACGA CTGGATCT	5472
3494 AAAAGGAG A UGCUCGCC 4189 GGCGAGCA GGCTAGCTACAACGA CTCCTTTT 5475 3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3479	UCCAGAUU A UGUCAGAA	4187	TTCTGACA GGCTAGCTACAACGA AATCTGGA	5473
3496 AAGGAGAU G CUCGCCUC 4190 GAGGCGAG GGCTAGCTACAACGA ATCTCCTT 5476 3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3481	CAGAUUAU G UCAGAAAA	4188	TTTTCTGA GGCTAGCTACAACGA ATAATCTG	5474
3500 AGAUGCUC G CCUCCCUU 4191 AAGGGAGG GGCTAGCTACAACGA GAGCATCT 5477 3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3494	AAAAGGAG A UGCUCGCC	4189	GGCGAGCA GGCTAGCTACAACGA CTCCTTTT	5475
3513 CCUUUGAA A UGGAUGGC 4192 GCCATCCA GGCTAGCTACAACGA TTCAAAGG 5478 3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3496	AAGGAGAU G CUCGCCUC	4190	GAGGCGAG GGCTAGCTACAACGA ATCTCCTT	5476
3517 UGAAAUGG A UGGCCCCA 4193 TGGGGCCA GGCTAGCTACAACGA CCATTTCA 5479 3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3500	AGAUGCUC G CCUCCCUU	4191	AAGGGAGG GGCTAGCTACAACGA GAGCATCT	5477
3520 AAUGGAUG G CCCCAGAA 4194 TTCTGGGG GGCTAGCTACAACGA CATCCATT 5480	3513	CCUUUGAA A UGGAUGGC	4192	GCCATCCA GGCTAGCTACAACGA TTCAAAGG	5478
	3517	UGAAAUGG A UGGCCCCA	4193	TGGGGCCA GGCTAGCTACAACGA CCATTTCA	5479
3529 CCCCAGAA A CAAUUUUU 4195 AAAAATTG GGCTAGCTACAACGA TTCTGGGG 5481	3520	AAUGGAUG G CCCCAGAA	4194	TTCTGGGG GGCTAGCTACAACGA CATCCATT	5480
	3529	CCCCAGAA A CAAUUUUU	4195	AAAAATTG GGCTAGCTACAACGA TTCTGGGG	5481

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3544 UUGACAGA G UGUACACA 4198 TGTGTACA GGCTAGCTACAACGA TCTGTCAA 548 3546 GACAGAGU G UACACAAU 4199 ATTGTGTA GGCTAGCTACAACGA ACTCTGTC 548 3548 CAGAGUGU A CACAAUCC 4200 GGATTGTG GGCTAGCTACAACGA ACACTCTG 548 3550 GAGUGUAC A CAAUCCAG 4201 CTGGATTG GGCTAGCTACAACGA GTACACTC 548	3
3546 GACAGAGU G UACACAAU 4199 ATTGTGTA GGCTAGCTACAACGA ACTCTGTC 548 3548 CAGAGUGU A CACAAUCC 4200 GGATTGTG GGCTAGCTACAACGA ACACTCTG 548 3550 GAGUGUAC A CAAUCCAG 4201 CTGGATTG GGCTAGCTACAACGA GTACACTC 548	
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3553 HIGHINGNON A HIGGNONGHI 4303 ACTIOTICON GEOTTAGOTTAGOTTAGOTTAGOTTAGOTTAGOTTAGOTT	7
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3595 UGUGGGAA A UAUUUUCC 4211 GGAAAATA GGCTAGCTACAACGA TTCCCACA 549	7
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<u> </u>	UCAGCAGG A UGGCAAAG		CTTTGCCA GGCTAGCTACAACGA CCTGCTGA	+
	GCAGGAUG G CAAAGACU UGGCAAAG A CUACAUUG		AGTCTTTG GGCTAGCTACAACGA CATCCTGC CAATGTAG GGCTAGCTACAACGA CTTTGCCA	
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	UUAUCUCC A UCUUUUGG	 		611
	AUCUUUUG G UGGAAUGG	 		612
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	CAGCAAAA G CAGGGAGU	 		617
	AGCAGGGA G UCUGUGGO		<u> </u>	618
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	UCUGUGGC A UCUGAAGO	 		621
	AUCUGAAG G CUCAAACO	 	——————————————————————————————————————	622
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	CAAACCAG A CAAGCGGC	 		624
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·	AAGCGGCU A CCAGUCCG			627
	GGCUACCA G UCCGGAUA	 		628
	CAGUCCGG A UAUCACUC			629
	GUCCGGAU A UCACUCCO		<u> </u>	630
4232	 	 	——————————————————————————————————————	631
├ ──	UCACUCCG A UGACACAG			632
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	 		 _ _ 	637
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4291	UAAAGCUG A UA	GAGAUU	4359	AATCTCTA	GGCTAGCTACAACGA	CAGCTTTA	5645
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4303	AGAUUGGA G UG	CAAACC	4361	GGTTTGCA	GGCTAGCTACAACGA	TCCAATCT	5647
4305	AUUGGAGU G CA	AACCGG	4362	CCGGTTTG	GGCTAGCTACAACGA	ACTCCAAT	5648
4309	GAGUGCAA A CC	GGUAGC	4363	GCTACCGG	GGCTAGCTACAACGA	TTGCACTC	5649
4313	GCAAACCG G UA	GCACAG	4364	CTGTGCTA	GGCTAGCTACAACGA	CGGTTTGC	5650
4316	AACCGGUA G CA	CAGCCC	4365	GGGCTGTG	GGCTAGCTACAACGA	TACCGGTT	5651
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4358	CACACUGA G CU	cuccuc	4374	GAGGAGAG	GGCTAGCTACAACGA	TCAGTGTG	5660
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-	UUCUAGGC A UA		4407				
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4570	gugucugu g ucuucu	C 4416	GGAGAAGA GGCTAGCTACAACGA ACAGACAC	5702
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4677	UUCAAGCA A UGGCCC	A 4437	TGGGGCCA GGCTAGCTACAACGA TGCTTGAA	5723
4680	AAGCAAUG G CCCCAU	C 4438	GGATGGGG GGCTAGCTACAACGA CATTGCTT	5724
4685	AUGGCCCC A UCCUCA	A 4439	TTTGAGGA GGCTAGCTACAACGA GGGGCCAT	5725
4697	UCAAAGAA G UAGCAG	JA 4440	TACTGCTA GGCTAGCTACAACGA TTCTTTGA	5726
4700	AAGAAGUA G CAGUAC	U 4441	AGGTACTG GGCTAGCTACAACGA TACTTCTT	5727
4703	AAGUAGCA G UACCUG	G 4442	CCCAGGTA GGCTAGCTACAACGA TGCTACTT	5728
4705	GUAGCAGU A CCUGGG	A 4443	TCCCCAGG GGCTAGCTACAACGA ACTGCTAC	5729
4714	CCUGGGGA G CUGACA	U 4444	AGTGTCAG GGCTAGCTACAACGA TCCCCAGG	5730
4718	GGGAGCUG A CACUUC	JG 4445	CAGAAGTG GGCTAGCTACAACGA CAGCTCCC	5731
	GAGCUGAC A CUUCUG		TACAGAAG GGCTAGCTACAACGA GTCAGCTC	5732
	ACACUUCU G UAAAAC			5733
4731	UCUGUAAA A CUAGAA	A 4448	TCTTCTAG GGCTAGCTACAACGA TTTACAGA	5734
	ACUAGAAG A UAAACC		CTGGTTTA GGCTAGCTACAACGA CTTCTAGT	5735
	GAAGAUAA A CCAGGC			5736
	UAAACCAG G CAACGU			5737
	ACCAGGCA A CGUAAG			5738
	CAGGCAAC G UAAGUG			5739
	CAACGUAA G UGUUCG			5740
	ACGUAAGU G UUCGAG			5741
	UGUUCGAG G UGUUGA			5742
	UUCGAGGU G UUGAAG			5743
-	UGUUGAAG A UGGGAA			5744
	UGGGAAGG A UUUGCA			5745
4788	AAGGAUUU G CAGGGC	JG 4460	CAGCCCTG GGCTAGCTACAACGA AAATCCTT	5746

						147		
4793 UU	TUGCAGG	G	CUGAGUCU	4461	AGACTCAG	GGCTAGCTACAACGA	CCTGCAAA	5747
4798 AG	GGCUGA	G	UCUAUCCA	4462	TGGATAGA	GGCTAGCTACAACGA	TCAGCCCT	5748
4802 CU	GAGUCU	A	UCCAAGAG	4463	CTCTTGGA	GGCTAGCTACAACGA	AGACTCAG	5749
4811 UC	CAAGAG	G	CUUUGUUU	4464	AAACAAAG	GGCTAGCTACAACGA	CTCTTGGA	5750
4816 GA	GGCUUU	G	UUUAGGAC	4465	GTCCTAAA	GGCTAGCTACAACGA	AAAGCCTC	5751
4823 UG	UUUAGG	A	CGUGGGUC	4466	GACCCACG	GGCTAGCTACAACGA	CCTAAACA	5752
4825 UU	UAGGAC	G	UGGGUCCC	4467	GGGACCCA	GGCTAGCTACAACGA	GTCCTAAA	5753
4829 GG	ACGUGG	G	UCCCAAGC	4468	GCTTGGGA	GGCTAGCTACAACGA	CCACGTCC	5754
4836 GG	UCCCAA	G	CCAAGCCU	4469	AGGCTTGG	GGCTAGCTACAACGA	TTGGGACC	5755
4841 CA	AGCCAA	G	CCUUAAGU	4470	ACTTAAGG	GGCTAGCTACAACGA	TTGGCTTG	5756
4848 AG	CCUUAA	G	UGUGGAAU	4471	ATTCCACA	GGCTAGCTACAACGA	TTAAGGCT	5757
4850 CC	UUAAGU	G	UGGAAUUC	4472	GAATTCCA	GGCTAGCTACAACGA	ACTTAAGG	5758
4855 AG	UGUGGA	A	UUCGGAUU	4473	AATCCGAA	GGCTAGCTACAACGA	TCCACACT	5759
4861 GA	AUUCGG	A	UUGAUAGA	4474	TCTATCAA	GGCTAGCTACAACGA	CCGAATTC	5760
4865 UC	GGAUUG	A	UAGAAAGG	4475		GGCTAGCTACAACGA		5761
4877 AA	AGGAAG	A	CUAACGUU	4476	AACGTTAG	GGCTAGCTACAACGA	CTTCCTTT	5762
			CGUUACCU	4477		GGCTAGCTACAACGA		5763
			UUACCUUG	4478		GGCTAGCTACAACGA		5764
			CCUUGCUU	4479		GGCTAGCTACAACGA		5765
			CUUUGGAG	4480		GGCTAGCTACAACGA		5766
			UACUGGAG	4481		GGCTAGCTACAACGA		5767
			CUGGAGCC	4482		GGCTAGCTACAACGA		5768
			CCUGCAAA	4483		GGCTAGCTACAACGA		5769
			CAAAUGCA	4484		GGCTAGCTACAACGA		5770
			UGCAUUGU	4485		GGCTAGCTACAACGA		5771
			CAUUGUGU	4486		GGCTAGCTACAACGA		5772
			UUGUGUUU	4487		GGCTAGCTACAACGA		5773
			UGUUUGCU	4488		GGCTAGCTACAACGA		5774
			UUUGCUCU	4489		GGCTAGCTACAACGA		5775
	GUGUUU		CUCUGGUG	4490		GGCTAGCTACAACGA		5776
	GCUCUG		UGGAGGUG	4491		GGCTAGCTACAACGA		5777
			UGGGCAUG	4492		GGCTAGCTACAACGA		5778
		_	CAUGGGGU	4493		GGCTAGCTACAACGA		5779
			UGGGGUCU	4494		GGCTAGCTACAACGA		5780
			ncnenncn	4495		GGCTAGCTACAACGA		
			UUCUGAAA	4496		GGCTAGCTACAACGA		5781
			UGUAAAGG	4497		GGCTAGCTACAACGA		5782 5783
			UAAAGGGU			GGCTAGCTACAACGA		5784
			UUCAGACG	4499		GGCTAGCTACAACGA		
			CGGGGUUU					5785
		_	UUUCUGGU	4500		GGCTAGCTACAACGA		5786
				4501		GGCTAGCTACAACGA		5787
	UUUCUG UAGAAG		UUUUAGAA	4502		GGCTAGCTACAACGA		5788
				4503		GGCTAGCTACAACGA		5789
			CGUGUUCU	4504		GGCTAGCTACAACGA		5790
	GGUUGC		UGUUCUUC	4505		GGCTAGCTACAACGA		5791
	UUGCGU		UUCUUCGA	4506		GGCTAGCTACAACGA		5792
	CUUCGA		UUGGGCUA	4507		GGCTAGCTACAACGA		5793
	AGUUGG		CUAAAGUA	4508		GGCTAGCTACAACGA		5794
			UAGAGUUC	4509		GGCTAGCTACAACGA		5795
			UUCGUUGU	4510		GGCTAGCTACAACGA		5796
			UUGUGCUG	4511		GGCTAGCTACAACGA		5797
 			UGCUGUUU	4512		GGCTAGCTACAACGA		5798
5043 UU	CGUUGÜ	٠	CUGUUUCU	4513	AGAAACAG	GGCTAGCTACAACGA	ACAACGAA	5799

			,	146		
5046	GUUGUGCU G UUUCUGAC	4514	GTCAGAAA	GGCTAGCTACAACGA	AGCACAAC	5800
5053	UGUUUCUG A CUCCUAAU	4515	ATTAGGAG	GGCTAGCTACAACGA	CAGAAACA	5801
5060	GACUCCUA A UGAGAGUU	4516	AACTCTCA	GGCTAGCTACAACGA	TAGGAGTC	5802
5066	UAAUGAGA G UUCCUUCC	4517	GGAAGGAA	GGCTAGCTACAACGA	TCTCATTA	5803
5077	CCUUCCAG A CCGUUAGC	4518	GCTAACGG	GGCTAGCTACAACGA	CTGGAAGG	5804
5080	UCCAGACC G UUAGCUGU	4519	ACAGCTAA	GGCTAGCTACAACGA	GGTCTGGA	5805
5084	GACCGUUA G CUGUCUCC	4520	GGAGACAG	GGCTAGCTACAACGA	TAACGGTC	5806
5087	CGUUAGCU G UCUCCUUG	4521	CAAGGAGA	GGCTAGCTACAACGA	AGCTAACG	5807
5095	GUCUCCUU G CCAAGCCC	4522	GGGCTTGG	GGCTAGCTACAACGA	AAGGAGAC	5808
5100	CUUGCCAA G CCCCAGGA	4523	TCCTGGGG	GGCTAGCTACAACGA	TTGGCAAG	5809
5114	GGAAGAAA A UGAUGCAG	4524	CTGCATCA	GGCTAGCTACAACGA	TTTCTTCC	5810
5117	AGAAAAUG A UGCAGCUC	4525	GAGCTGCA	GGCTAGCTACAACGA	CATTTTCT	5811
5119	AAAAUGAU G CAGCUCUG	4526	CAGAGCTG	GGCTAGCTACAACGA	ATCATTTT	5812
5122	AUGAUGCA G CUCUGGCU	4527	AGCCAGAG	GGCTAGCTACAACGA	TGCATCAT	5813
5128	CAGCUCUG G CUCCUUGU	4528	ACAAGGAG	GGCTAGCTACAACGA	CAGAGCTG	5814
5135	GGCUCCUU G UCUCCCAG	4529	CTGGGAGA	GGCTAGCTACAACGA	AAGGAGCC	5815
	UCUCCCAG G CUGAUCCU			GGCTAGCTACAACGA		5816
	CCAGGCUG A UCCUUUAU		 	GGCTAGCTACAACGA		5817
—	GAUCCUUU A UUCAGAAU			GGCTAGCTACAACGA		5818
	UAUUCAGA A UACCACAA			GGCTAGCTACAACGA		5819
	UUCAGAAU A CCACAAAG			GGCTAGCTACAACGA		5820
-	AGAAUACC A CAAAGAAA			GGCTAGCTACAACGA		5821
— —	AAGAAAGG A CAUUCAGC	4536		GGCTAGCTACAACGA		5822
	GAAAGGAC A UUCAGCUC	4537		GGCTAGCTACAACGA		5823
\vdash	GACAUUCA G CUCAAGGC	4538		GGCTAGCTACAACGA		5824
	AGCUCAAG G CUCCCUGC	4539		GGCTAGCTACAACGA		
	GGCUCCCU G CCGUGUUG					5825
	UCCCUGCC G UGUUGAAG			GGCTAGCTACAACGA GGCTAGCTACAACGA		5826
	CCUGCCGU G UUGAAGAG	4542		GGCTAGCTACAACGA		5827
	GUUGAAGA G UUCUGACU			GGCTAGCTACAACGA		5828
1——						5829
	GAGUUCUG A CUGCACAA			GGCTAGCTACAACGA		5830
——	UUCUGACU G CACAAACC			GGCTAGCTACAACGA		5831
	CUGACUGC A CAAACCAG			GGCTAGCTACAACGA		5832
	CUGCACAA A CCAGCUUC			GGCTAGCTACAACGA		5833
	ACAAACCA G CUUCUGGU			GGCTAGCTACAACGA		5834
-	AGCUUCUG G UUUCUUCU			GGCTAGCTACAACGA		5835
	CUUCUGGA A UGAAUACC			GGCTAGCTACAACGA		5836
	UGGAAUGA A UACCCUCA			GGCTAGCTACAACGA		5837
	GAAUGAAU A CCCUCAUA			GGCTAGCTACAACGA		5838
	AUACCCUC A UAUCUGUC			GGCTAGCTACAACGA		5839
	ACCCUCAU A UCUGUCCU	 	ļ ————	GGCTAGCTACAACGA		5840
	UCAUAUCU G UCCUGAUG	 		GGCTAGCTACAACGA		5841
	CUGUCCUG A UGUGAUAU			GGCTAGCTACAACGA		5842
	GUCCUGAU G UGAUAUGU			GGCTAGCTACAACGA	<u>.</u>	5843
	CUGAUGUG A UAUGUCUG			GGCTAGCTACAACGA		5844
	GAUGUGAU A UGUCUGAG			GGCTAGCTACAACGA		5845
5283	UGUGAUAU G UCUGAGAC	4560	GTCTCAGA	GGCTAGCTACAACGA	ATATCACA	5846
5290	UGUCUGAG A CUGAAUGC	4561		GGCTAGCTACAACGA		5847
5295	GAGACUGA A UGCGGGAG	4562	CTCCCGCA	GGCTAGCTACAACGA	TCAGTCTC	5848
5297	GACUGAAU G CGGGAGGU	4563	ACCTCCCG	GGCTAGCTACAACGA	ATTCAGTC	5849
5304	UGCGGGAG G UUCAAUGU	4564	ACATTGAA	GGCTAGCTACAACGA	CTCCCGCA	5850
5309	GAGGUUCA A UGUGAAGC	4565	GCTTCACA	GGCTAGCTACAACGA	TGAACCTC	5851
5311	GGUUCAAU G UGAAGCUG	4566	CAGCTTCA	GGCTAGCTACAACGA	ATTGAACC	5852

		149	
5316 AAUGUGAA G CUGUGUGU	4567	ACACACAG GGCTAGCTACAACGA TTCACATT 5	853
5319 GUGAAGCU G UGUGUGGU	4568	ACCACACA GGCTAGCTACAACGA AGCTTCAC 5	854
5321 GAAGCUGU G UGUGGUGU	4569	ACACCACA GGCTAGCTACAACGA ACAGCTTC 5	855
5323 AGCUGUGU G UGGUGUCA	4570	TGACACCA GGCTAGCTACAACGA ACACAGCT 5	5856
5326 UGUGUGUG G UGUCAAAG	4571	CTTTGACA GGCTAGCTACAACGA CACACACA 5	857
5328 UGUGUGGU G UCAAAGUU	4572	AACTTTGA GGCTAGCTACAACGA ACCACACA 5	5858
5334 GUGUCAAA G UUUCAGGA	4573	TCCTGAAA GGCTAGCTACAACGA TTTGACAC 5	859
5346 CAGGAAGG A UUUUACCC	4574	GGGTAAAA GGCTAGCTACAACGA CCTTCCTG 5	860
5351 AGGAUUUU A CCCUUUUG	4575	CAAAAGGG GGCTAGCTACAACGA AAAATCCT 5	5861
5359 ACCCUUUU G UUCUUCCC	4576	GGGAAGAA GGCTAGCTACAACGA AAAAGGGT 5	862
5371 UUCCCCCU G UCCCCAAC	4577	GTTGGGGA GGCTAGCTACAACGA AGGGGGAA 5	5863
5378 UGUCCCCA A CCCACUCU	4578	AGAGTGGG GGCTAGCTACAACGA TGGGGACA 5	5864
5382 CCCAACCC A CUCUCACC	4579	GGTGAGAG GGCTAGCTACAACGA GGGTTGGG 5	865
5388 CCACUCUC A CCCCGCAA	4580	TTGCGGGG GGCTAGCTACAACGA GAGAGTGG 5	5866
5393 CUCACCCC G CAACCCAU	4581	ATGGGTTG GGCTAGCTACAACGA GGGGTGAG 5	867
5396 ACCCCGCA A CCCAUCAG	4582	CTGATGGG GGCTAGCTACAACGA TGCGGGGT 5	868
5400 CGCAACCC A UCAGUAUU	4583	<u> </u>	5869
5404 ACCCAUCA G UAUUUUAG	4584	CTAAAATA GGCTAGCTACAACGA TGATGGGT 5	5870
5406 CCAUCAGU A UUUUAGUU	4585	AACTAAAA GGCTAGCTACAACGA ACTGATGG 5	5871
5412 GUAUUUUA G UUAUUUGG	4586		5872
5415 UUUUAGUU A UUUGGCCU	4587		5873
5420 GUUAUUUG G CCUCUACU	4588		5874
5426 UGGCCUCU A CUCCAGUA	4589		875
5432 CUACUCCA G UAAACCUG	4590		5876
5436 UCCAGUAA A CCUGAUUG	4591	T	5877
5441 UAAACCUG A UUGGGUUU	4592	†	878
5446 CUGAUUGG G UUUGUUCA	4593		879
5450 UUGGGUUU G UUCACUCU	4594		880
5454 GUUUGUUC A CUCUCUGA	4595		881
5463 CUCUCUGA A UGAUUAUU	4596		882
5466 UCUGAAUG A UUAUUAGC	4597		883
5469 GAAUGAUU A UUAGCCAG	4598		884
5473 GAUUAUUA G CCAGACUU	4599	 	885
5478 UUAGCCAG A CUUCAAAA	4600	 	886
5486 ACUUCAAA A UUAUUUUA	4601		887
5489 UCAAAAUU A UUUUAUAG	4602		888
5494 AUUAUUUU A UAGCCCAA	4603		889
5497 AUUUUAUA G CCCAAAUU			890
5503 UAGCCCAA A UUAUAACA	4605		891
5506 CCCAAAUU A UAACAUCU	4606		892
5509 AAAUUAUA A CAUCUAUU	4607		893
5511 AUUAUAAC A UCUAUUGU	4608	 	894
5515 UAACAUCU A UUGUAUUA	4609	†	895
5518 CAUCUAUU G UAUUAUUU	4610		896
5520 UCUAUUGU A UUAUUUAG	4611	<u> </u>	897
5523 AUUGUAUU A UUUAGACU	4612		898
5529 UUAUUUAG A CUUUUAAC	4613		899
5536 GACUUUUA A CAUAUAGA	4614		900
5538 CUUUUAAC A UAUAGAGC	4615		901
5540 UUUAACAU A UAGAGCUA	4616		902
5545 CAUAUAGA G CUAUUUCU	4617		903
5548 AUAGAGCU A UUUCUACU	4618		903
5554 CUAUUUCU A CUGAUUUU	4619		
DODITION COOK OUT	4045	TARRESTON GUCTAGGIACHA AGAAATAG 5	905

				150		
5558	UUCUACUG A UUUUUGCC	4620	GGCAAAAA	GGCTAGCTACAACGA	CAGTAGAA	5906
5564	UGAUUUUU G CCCUUGUU	4621	AACAAGGG	GGCTAGCTACAACGA	AAAAATCA	5907
5570	nneccan e nnanenca	4622	GGACAGAA	GGCTAGCTACAACGA	AAGGGCAA	5908
5575	cnnanncn e nccnnnnn	4623	AAAAAGGA	GGCTAGCTACAACGA	AGAACAAG	5909
5597	AAAAGAAA A UGUGUUUU	4624	AAAACACA	GGCTAGCTACAACGA	TTTCTTTT	5910
5599	AAGAAAAU G UGUUUUUU	4625	AAAAAACA	GGCTAGCTACAACGA	ATTTTCTT	5911
5601	GAAAAUGU G UUUUUUGU	4626	ACAAAAA	GGCTAGCTACAACGA	ACATTTTC	5912
	UGUUUUUU G UUUGGUAC	4627	GTACCAAA	GGCTAGCTACAACGA	AAAAAACA	5913
5613	UUUGUUUG G UACCAUAG	4628	CTATGGTA	GGCTAGCTACAACGA	CAAACAAA	5914
5615	UGUUUGGU A CCAUAGUG	4629	CACTATGG	GGCTAGCTACAACGA	ACCAAACA	5915
5618	UUGGUACC A UAGUGUGA	4630	TCACACTA	GGCTAGCTACAACGA	GGTACCAA	5916
-	GUACCAUA G UGUGAAAU	4631		GGCTAGCTACAACGA		5917
5623	ACCAUAGU G UGAAAUGC	4632	GCATTTCA	GGCTAGCTACAACGA	ACTATGGT	5918
_	AGUGUGAA A UGCUGGGA	4633	TCCCAGCA	GGCTAGCTACAACGA	TTCACACT	5919
5630	UGUGAAAU G CUGGGAAC	4634	GTTCCCAG	GGCTAGCTACAACGA	ATTTCACA	5920
5637	UGCUGGGA A CAAUGACU	4635	AGTCATTG	GGCTAGCTACAACGA	TCCCAGCA	5921
-	UGGGAACA A UGACUAUA	4636	TATAGTCA	GGCTAGCTACAACGA	TGTTCCCA	5922
	GAACAAUG A CUAUAAGA	4637		GGCTAGCTACAACGA		5923
5646	CAAUGACU A UAAGACAU	4638	ATGTCTTA	GGCTAGCTACAACGA	AGTCATTG	5924
-	ACUAUAAG A CAUGCUAU	4639	ATAGCATG	GGCTAGCTACAACGA	CTTATAGT	5925
5653	UAUAAGAC A UGCUAUGG	4640		GGCTAGCTACAACGA		5926
—	UAAGACAU G CUAUGGCA	4641	TGCCATAG	GGCTAGCTACAACGA	ATGTCTTA	5927
5658	GACAUGCU A UGGCACAU	4642		GGCTAGCTACAACGA		5928
5661	AUGCUAUG G CACAUAUA	4643	TATATGTG	GGCTAGCTACAACGA	CATAGCAT	5929
5663	GCUAUGGC A CAUAUAUU	4644	AATATATG	GGCTAGCTACAACGA	GCCATAGC	5930
5665	UAUGGCAC A UAUAUUUA	4645	TAAATATA	GGCTAGCTACAACGA	GTGCCATA	5931
5667	UGGCACAU A UAUUUAUA	4646	TATAAATA	GGCTAGCTACAACGA	ATGTGCCA	5932
5669	GCACAUAU A UUUAUAGU	4647	ACTATAAA	GGCTAGCTACAACGA	ATATGTGC	5933
5673	AUAUAUUU A UAGUCUGU	4648		GGCTAGCTACAACGA		5934
5676		4649		GGCTAGCTACAACGA		5935
-	UAUAGUCU G UUUAUGUA	4650		GGCTAGCTACAACGA		5936
	GUCUGUUU A UGUAGAAA	4651		GGCTAGCTACAACGA		5937
5686	CUGUUUAU G UAGAAACA	4652		GGCTAGCTACAACGA		5938
	AUGUAGAA A CAAAUGUA	4653		GGCTAGCTACAACGA		5939
	AGAAACAA A UGUAAUAU	4654		GGCTAGCTACAACGA		5940
	AAACAAAU G UAAUAUAU	4655		GGCTAGCTACAACGA		5941
5701		4656		GGCTAGCTACAACGA		5942
	AAUGUAAU A UAUUAAAG	4657		GGCTAGCTACAACGA		5943
	UGUAAUAU A UUAAAGCC	4658		GGCTAGCTACAACGA		5944
	AUAUUAAA G CCUUAUAU	4659		GGCTAGCTACAACGA		5945
	AAAGCCUU A UAUAUAAU	4660		GGCTAGCTACAACGA		5946
	AGCCUUAU A UAUAAUGA	4661		GGCTAGCTACAACGA		5947
	CCUUAUAU A UAAUGAAC	4662		GGCTAGCTACAACGA		5948
	UAUAUAUA A UGAACUUU	4663		GGCTAGCTACAACGA		5949
	UAUAAUGA A CUUUGUAC	4664		GGCTAGCTACAACGA		5950
	UGAACUUU G UACUAUUC	4665		GGCTAGCTACAACGA		5951
	AACUUUGU A CUAUUCAC	4666		GGCTAGCTACAACGA		5952
	UUUGUACU A UUCACAUU	4667		GGCTAGCTACAACGA		5953
	UACUAUUC A CAUUUUGU	4668		GGCTAGCTACAACGA		5954
	CUAUUCAC A UUUUGUAU	4669		GGCTAGCTACAACGA		5955
	CACAUUUU G UAUCAGUA	4670		GGCTAGCTACAACGA		5956
	CAUUUUGU A UCAGUAUU	4671		GGCTAGCTACAACGA		5957
5754	UUGUAUCA G UAUUAUGU	4672	ACATAATA	GGCTAGCTACAACGA	TGATACAA	5958

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5756	GUAUCAGU	Α	UUAUGUAG	4673	CTACATAA GGCTAGCTACAACGA ACTGATAC 5959
5759	UCAGUAUU	A	UGUAGCAU	4674	ATGCTACA GGCTAGCTACAACGA AATACTGA 5960
5761	AGUAUUAU	G	UAGCAUAA	4675	TTATGCTA GGCTAGCTACAACGA ATAATACT 5961
5764	AUUAUGUA	G	CAUAACAA	4676	TTGTTATG GGCTAGCTACAACGA TACATAAT 5962
5766	UAUGUAGC	A	UAACAAAG	4677	CTTTGTTA GGCTAGCTACAACGA GCTACATA 5963
5769	GUAGCAUA	Α	CAAAGGUC	4678	GACCTTTG GGCTAGCTACAACGA TATGCTAC 5964
5775	UAACAAAG	G	UCAUAAUG	4679	CATTATGA GGCTAGCTACAACGA CTTTGTTA 5965
5778	CAAAGGUC	Α	UAAUGCUU	4680	AAGCATTA GGCTAGCTACAACGA GACCTTTG 5966
5781	AGGUCAUA	A	UGCUUUCA	4681	TGAAAGCA GGCTAGCTACAACGA TATGACCT 5967
5783	GUCAUAAU	G	CUUUCAGC	4682	GCTGAAAG GGCTAGCTACAACGA ATTATGAC 5968
5790	UGCUUUCA	G	CAAUUGAU	4683	ATCAATTG GGCTAGCTACAACGA TGAAAGCA 5969
5793	UUUCAGCA	Α	UUGAUGUC	4684	GACATCAA GGCTAGCTACAACGA TGCTGAAA 5970
5797	AGCAAUUG	A	UGUCAUUU	4685	AAATGACA GGCTAGCTACAACGA CAATTGCT 5971
5799	CAAUUGAU	G	UCAUUUUA	4686	TAAAATGA GGCTAGCTACAACGA ATCAATTG 5972
5802	UUGAUGUC	A	UUUUAUUA	4687	TAATAAAA GGCTAGCTACAACGA GACATCAA 5973
5807	GUCAUUUU	A	UUAAAGAA	4688	TTCTTTAA GGCTAGCTACAACGA AAAATGAC 5974
5815	AUUAAAGA	Α	CAUUGAAA	4689	TTTCAATG GGCTAGCTACAACGA TCTTTAAT 5975
5817	UAAAGAAC	A	UUGAAAAA	4690	TTTTTCAA GGCTAGCTACAACGA GTTCTTTA 5976

Input Sequence = AF035121. Cut Site = R/Y
Arm Length = 8. Core Sequence = GGCTAGCTACAACGA
AF035121 (Homo sapiens KDR/flk-1 protein mRNA, complete cds.; Acc# AF035121; 5830 bp)

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PCT/US02/17674

CLAIMS

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1. A compound having Formula II: (SEQ ID NO: 5978)

5'-u_sa_sc_s a_sau uc<u>U</u> GAu Gag gcg aaa gcc Gaa Aag aca aB-3'

- wherein each **a** is 2'-O-methyl adenosine nucleotide, each **g** is a 2'-O-methyl guanosine nucleotide, each **c** is a 2'-O-methyl cytidine nucleotide, each **u** is a 2'-O-methyl uridine nucleotide, each **A** is adenosine, each **G** is guanosine, each **s** individually represents a phosphorothioate internucleotide linkage, <u>U</u> is 2'-deoxy-2'-C-allyl uridine, and **B** is an inverted deoxyabasic moiety.
 - 2. A composition comprising the compound of claim 1 and a pharmaceutically acceptable carrier or diluent.
- 3. A method of administering to a cell the compound of claim 1 comprising contacting said cell with the compound under conditions suitable for said administration.
 - 4. The method of claim 3, wherein said cell is a mammalian cell.
 - 5. The method of claim 3, wherein said cell is a human cell.
 - 6. The method of claim 3, wherein said administration is in the presence of a delivery reagent.
- 7. The method of claim 6, wherein said delivery reagent is a lipid.
 - 8. The method of claim 7, wherein said lipid is a cationic lipid.
 - 9. The method of claim 7, wherein said lipid is a phospholipid.
 - 10. The method of claim 6, wherein said delivery reagent is a liposome.
- 11. A method of administering to a cell the compound of claim 1 in conjunction with one or more other drug comprising contacting said cell

- with the compound and the other drug(s) under conditions suitable for said administration.
- 12. A method of inhibiting ocular angiogenesis in a subject comprising the step of contacting said subject with the compound of claim 1 under conditions suitable for said inhibition.

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- 13. The method of claim 12, wherein said angiogenesis is associated with diabetic retinopathy.
- 14. The method of claim 12, wherein said angiogenesis is associated with age related diabetic retinopathy.
- 10 15. A method of cleaving RNA comprising a sequence of KDR RNA comprising contacting the compound of claim 1 with said RNA under conditions suitable for the cleavage of said RNA.
 - 16. The method of claim 15, wherein said cleavage is carried out in the presence of a divalent cation.
- 15 17. The method of claim 16, wherein said divalent cation is Mg2+.
 - 18. A method of administering to a mammal the compound of claim 1 comprising contacting said mammal with the compound under conditions suitable for said administration.
 - 19. The method of claim 18, wherein said mammal is a human.
- 20 20. The method of claim 18 wherein said administration is in the presence of a delivery reagent.
 - 21. The method of claim 18, wherein said delivery reagent is a lipid.
 - 22. The method of claim 21, wherein said lipid is a cationic lipid.
 - 23. The method of claim 21, wherein said lipid is a phospholipid.
- 25 24. The method of claim 20, wherein said delivery reagent is a liposome.

- 25. A method for treating a subject having endometriosis, comprising contacting said subject with a nucleic acid molecule that modulates the expression of VEGF, VEGFR1, and/or VEGFR2, under conditions suitable for said treatment.
- 5 26. The method of claim 25, wherein said nucleic acid molecule is an enzymatic nucleic acid molecule.
 - 27. The method of claim 25, wherein said nucleic acid molecule is an antisense nucleic acid molecule.
- 28. The method of claim 25, wherein said nucleic acid molecule is a dsRNA nucleic acid molecule.
 - 29. The method of claim 25, wherein said nucleic acid molecule is a nucleic acid aptamer.
 - 30. The method of claim 25, wherein said nucleic acid molecule comprises a sequence having SEQ ID NO: 5977.
- 15 31. The method of claim 26, wherein said enzymatic nucleic acid molecule has an endonuclease activity to cleave RNA encoded by an VEGFR1 and/or VEGFR2 gene.
 - 32. The method of claim 26, wherein said enzymatic nucleic acid molecule is in a hammerhead configuration.
- 20 33. The method of claim 26, wherein said enzymatic nucleic acid molecule is in an Inozyme configuration.
 - 34. The method of claim 26, wherein said enzymatic nucleic acid molecule is in a Zinzyme configuration.
- 35. The method of claim 26, wherein said enzymatic nucleic acid molecule is in a DNAzyme configuration.
 - 36. The method of claim 26, wherein said enzymatic nucleic acid molecule is in a G-cleaver configuration.
 - 37. The method of claim 26, wherein said enzymatic nucleic acid molecule is in an Amberzyme configuration.

- 38. The method of claim 26, wherein said enzymatic nucleic acid molecule is an allozyme.
- 39. The method of claim 25, wherein said nucleic acid molecule is chemically synthesized.
- 5 40. The method of claim 25, wherein said nucleic acid molecule comprises at least one 2'-sugar modification.
 - 41. The method of claim 25, wherein said nucleic acid molecule comprises at least one nucleic acid base modification.
- 42. The method of claim 25, wherein said nucleic acid molecule comprises at least one phosphate backbone modification.
 - 43. The method of claim 25, wherein said subject is a human.

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- 44. A method for treating a subject having endometriosis, comprising administering to the subject a nucleic acid molecule that modulates the expression of VEGF, VEGFR1, and/or VEGFR2, under conditions suitable for said treatment.
- 45. The method of claim 44 wherein said administration is in the presence of a delivery reagent.
- 46. The method of claim 45, wherein said delivery reagent is a lipid.
- 47. The method of claim 46, wherein said lipid is a cationic lipid.
- 20 48. The method of claim 46, wherein said lipid is a phospholipid.
 - 49. The method of claim 45, wherein said delivery reagent is a liposome.
 - 50. The method of claim 44, further comprising administering one or more other drug(s).
- 51. The method of claim 50, wherein said other drug(s) are chosen from GnRH

 25 (gonadotropin releasing hormone) agonists, Lupron Depot (Leuprolide Acetate), Synarel (naferalin acetate), Zolodex (goserelin acetate), Suprefact (buserelin acetate), Danazol, and oral contraceptives.
 - 52. A compound having Formula I: (SEQ ID NO: 5977)

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5' gsasgsusugcUGAuGagg ccgaaa ggccGaaAgucugB 3'

wherein each \mathbf{a} is 2'-O-methyl adenosine nucleotide, each \mathbf{g} is a 2'-O-methyl guanosine nucleotide, each \mathbf{c} is a 2'-O-methyl cytidine nucleotide, each \mathbf{u} is a 2'-O-methyl uridine nucleotide, each \mathbf{A} is adenosine, each \mathbf{G} is guanosine, each \mathbf{s} individually represents a phosphorothioate internucleotide linkage, $\underline{\mathbf{U}}$ is 2'-deoxy-2'-C-allyl uridine, and \mathbf{B} is an inverted deoxyabasic moiety.

- 53. A composition comprising a compound of claim 52 in a pharmaceutically acceptable carrier or diluent.
- 10 54. A method of administering to a cell the compound of claim 52 comprising contacting said cell with the compound under conditions suitable for said administration.
 - 55. The method of claim 54, wherein said cell is a mammalian cell.
 - 56. The method of claim 54, wherein said cell is a human cell.
- 15 57. The method of claim 54, wherein said administration is in the presence of a delivery reagent.
 - 58. The method of claim 57, wherein said delivery reagent is a lipid.
 - 59. The method of claim 58, wherein said lipid is a cationic lipid.
 - 60. The method of claim 58, wherein said lipid is a phospholipid.
- 20 61. The method of claim 57, wherein said delivery reagent is a liposome.
 - 62. A method of administering to a cell the compound of claim 52 in conjunction with a chemotherapeutic agent comprising contacting said cell with the compound and the chemotherapeutic agent under conditions suitable for said administration.
- 25 63. The method of claim 62, wherein said chemotherapeutic agent is 5-fluoro uridine.

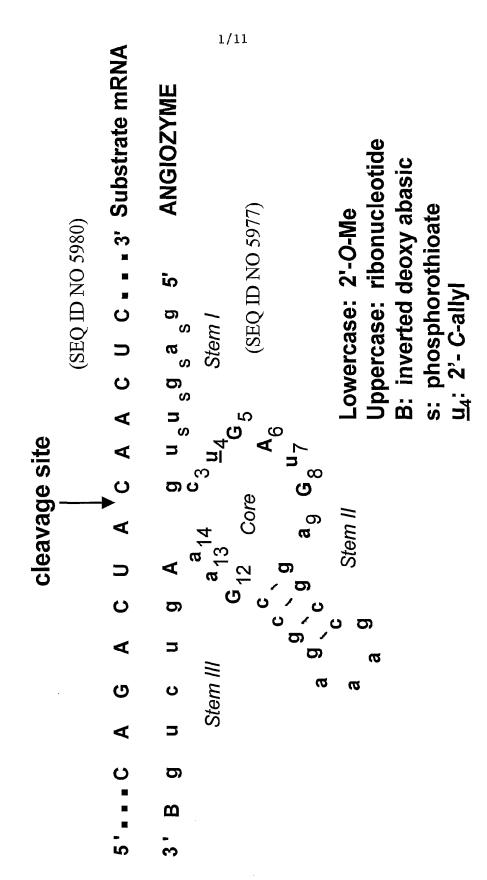
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- 64. The method of claim 62, wherein said chemotherapeutic agent is Leucovorin.
- 65. The method of claim 62, wherein said chemotherapeutic agent is chosen from Irinotecan, CAMPTOSAR®, CPT-11, Camptothecin-11, or Campto.
- 5 66. The method of claim 62, wherein said chemotherapeutic agent is Paclitaxel.
 - 67. The method of claim 62, wherein said chemotherapeutic agent is Carboplatin.
 - 68. A mammalian cell comprising the compound of claim 52...
- 69. The mammalian cell of claim 68, wherein said mammalian cell is a human 10 cell.
 - 70. A method of inhibiting angiogenesis in a subject, comprising the step of contacting said subject with the compound of claim 52, under conditions suitable for said inhibition.
 - 71. The method of claim 70, wherein said angiogenesis is tumor angiogenesis.
- 15 72. A method of treatment of a subject having a condition associated with an increased level of VEGF receptor comprising contacting cells of said subject with the compound of claim 52, under conditions suitable for said treatment.
- 73. The method of claim 72 further comprising the use of one or more drug 20 therapies under conditions suitable for said treatment.
 - 74. A method of cleaving RNA comprising a sequence of VEGFR1 (flt-1), comprising contacting the compound of claim 52 with said RNA under conditions suitable for the cleavage of said RNA.
- 75. The method of claim 74, wherein said cleavage is carried out in the 25 presence of a divalent cation.
 - 76. The method of claim 75, wherein said divalent cation is Mg2+.

- 77. The method of claim 72, wherein said condition is cancer.
- 78. The method of claim 77, wherein said cancer is breast cancer.
- 79. The method of claim 77, wherein said cancer is lung cancer.
- 80. The method of claim 77, wherein said cancer is colorectal cancer.
- 5 81. The method of claim 77, wherein said cancer is renal cancer.
 - 82. The method of claim 77, wherein said cancer is melanoma.
 - 83. The method of claim 77, wherein said cancer is pancreatic cancer.
 - 84. The method of claim 79, wherein said lung cancer is non-small cell lung carcinoma.
- 10 85. The method of claim 81, wherein said renal cancer is renal cell carcinoma.
 - 86. The method of claim 73, wherein said other therapy is 5-fluoro uridine.
 - 87. The method of claim 73, wherein said other therapy is Leucovorin.
 - 88. The method of claim 73, wherein said other therapy is Irinotecan, CAMPTOSAR®, CPT-11, Camptothecin-11, or Campto.
- 15 89. The method of claim 73, wherein said other therapy is Paclitaxel.
 - 90. The method of claim 73, wherein said other therapy is Carboplatin.
 - 91. A method of administering to a mammal the compound of claim 52 comprising contacting said mammal with the compound under conditions suitable for said administration.
- 20 92. The method of claim 91, wherein said mammal is a human.
 - 93. The method of claim 91, wherein said administration is in the presence of a delivery reagent.
 - 94. The method of claim 93, wherein said delivery reagent is a lipid.

- 95. The method of claim 94, wherein said lipid is a cationic lipid.
- 96. The method of claim 94, wherein said lipid is a phospholipid.
- 97. The method of claim 93, wherein said delivery reagent is a liposome.
- 98. A method of administering to a mammal the compound of claim 52 in conjunction with a chemotherapeutic agent comprising contacting said mammal with the compound and the chemotherapeutic agent under conditions suitable for said administration.
 - 99. The method of claim 98, wherein said chemotherapeutic agent is 5-fluoro uridine.
- 10 100. The method of claim 98, wherein said chemotherapeutic agent is Leucovorin.
 - 101. The method of claim 98, wherein said chemotherapeutic agent is Irinotecan, CAMPTOSAR®, CPT-11, Camptothecin-11, or Campto.
 - 102. The method of claim 98, wherein said chemotherapeutic agent is Paclitaxel.
- 15 103. The method of claim 98, wherein said chemotherapeutic agent is Carboplatin.

Figure 1: Anti-Flt-1 Ribozyme: ANGIOZYME





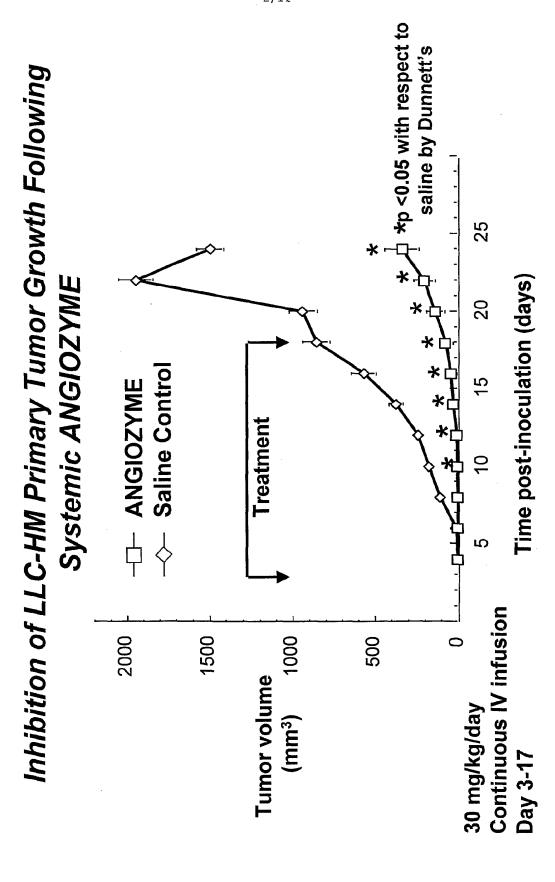
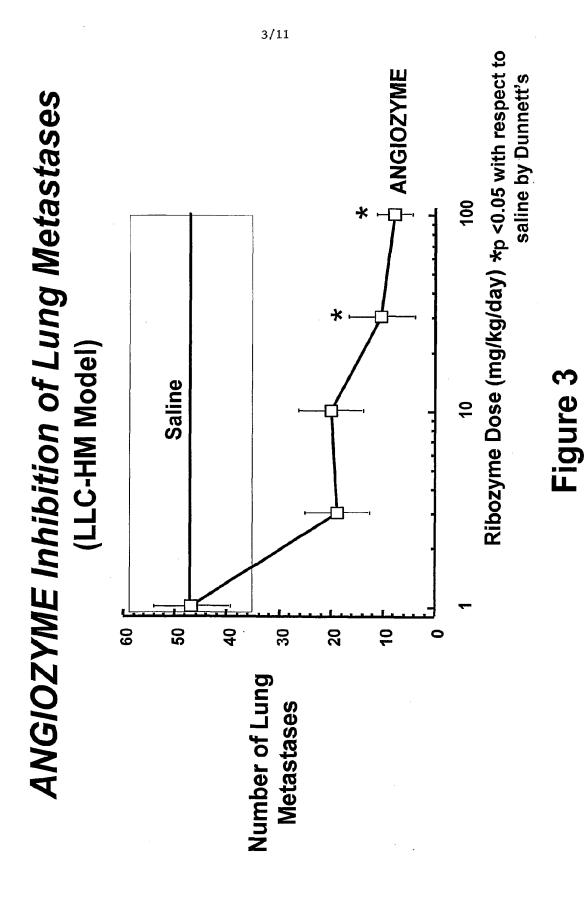
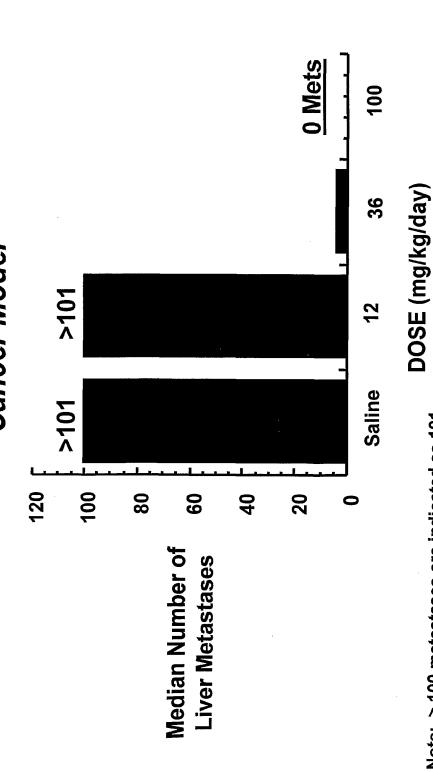


Figure 2







Note: > 100 metastases are indicated as 101.

Figure 4

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Figure 5: Plasma concentration profile of ANGIOZYME after a single subcutaneous dose of 10, 30, 100 or 300 mg/m²

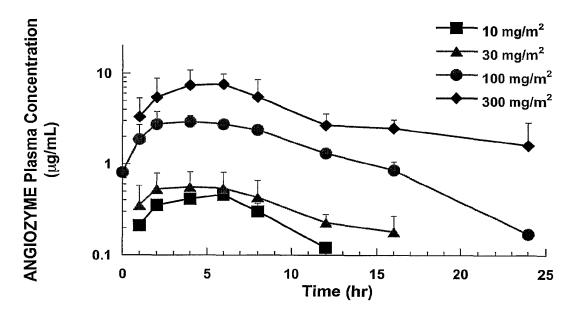


Figure 6: Examples of Nuclease Stable Ribozyme Motifs

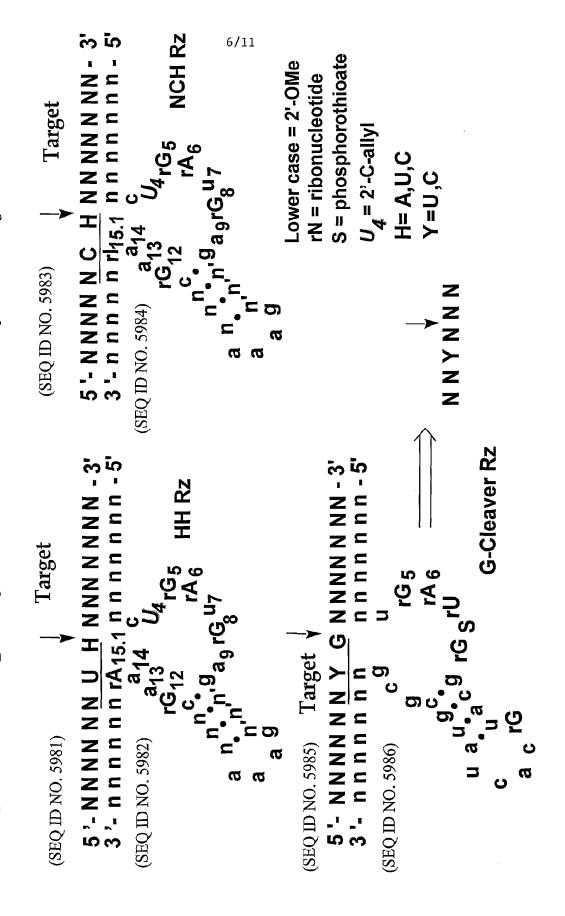
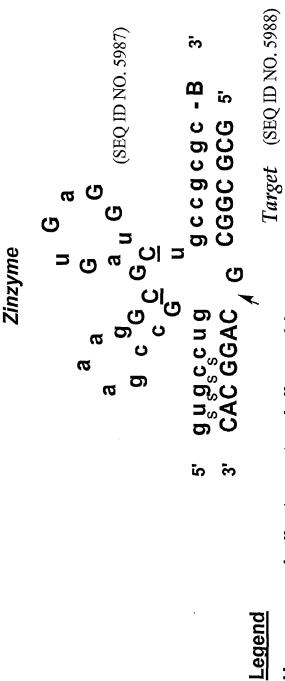


Figure 7: Stabilized Zinzyme Ribozyme Motif



Uppercase: indicates natural ribo residues

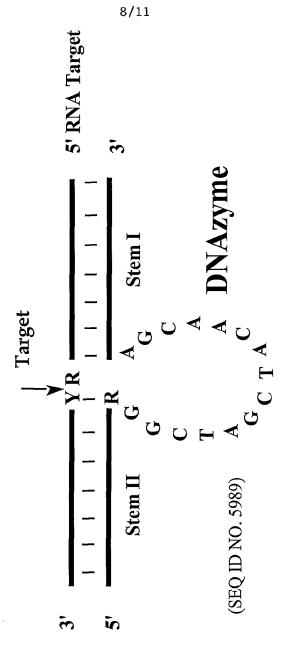
C: indicates 2'-deoxy-2'-amino Cytidine

Lowercase: 2'-O-methyl

S: phosphorothioate/phosphorodithioate linkage

B: 3'-3' abasic moiety

Figure 8: DNAzyme Motif



Y=UorC R=AorG Legend

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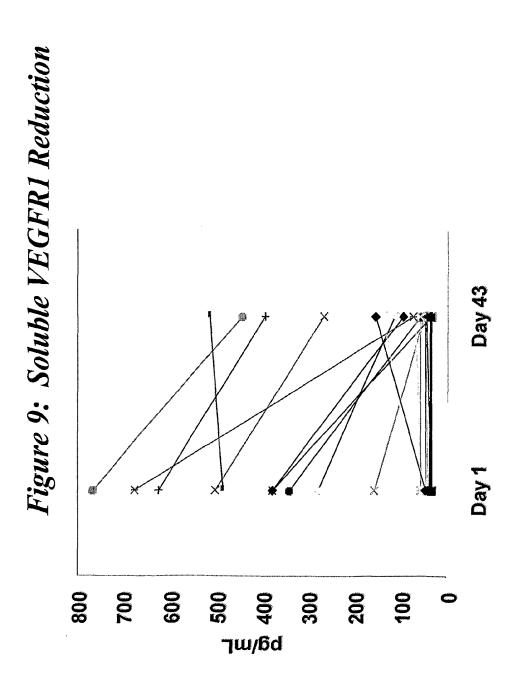
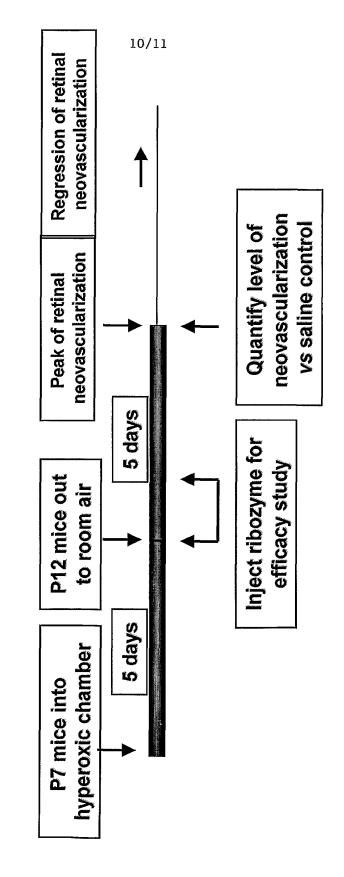


Figure 10: Mouse Model of Proliferative Retinopathy



Note: Peak VEGF levels noted 12 hr after exposure to room air

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